

VOL. X.

SEPT., 1857.

No. 3.

# THE PLOUGH

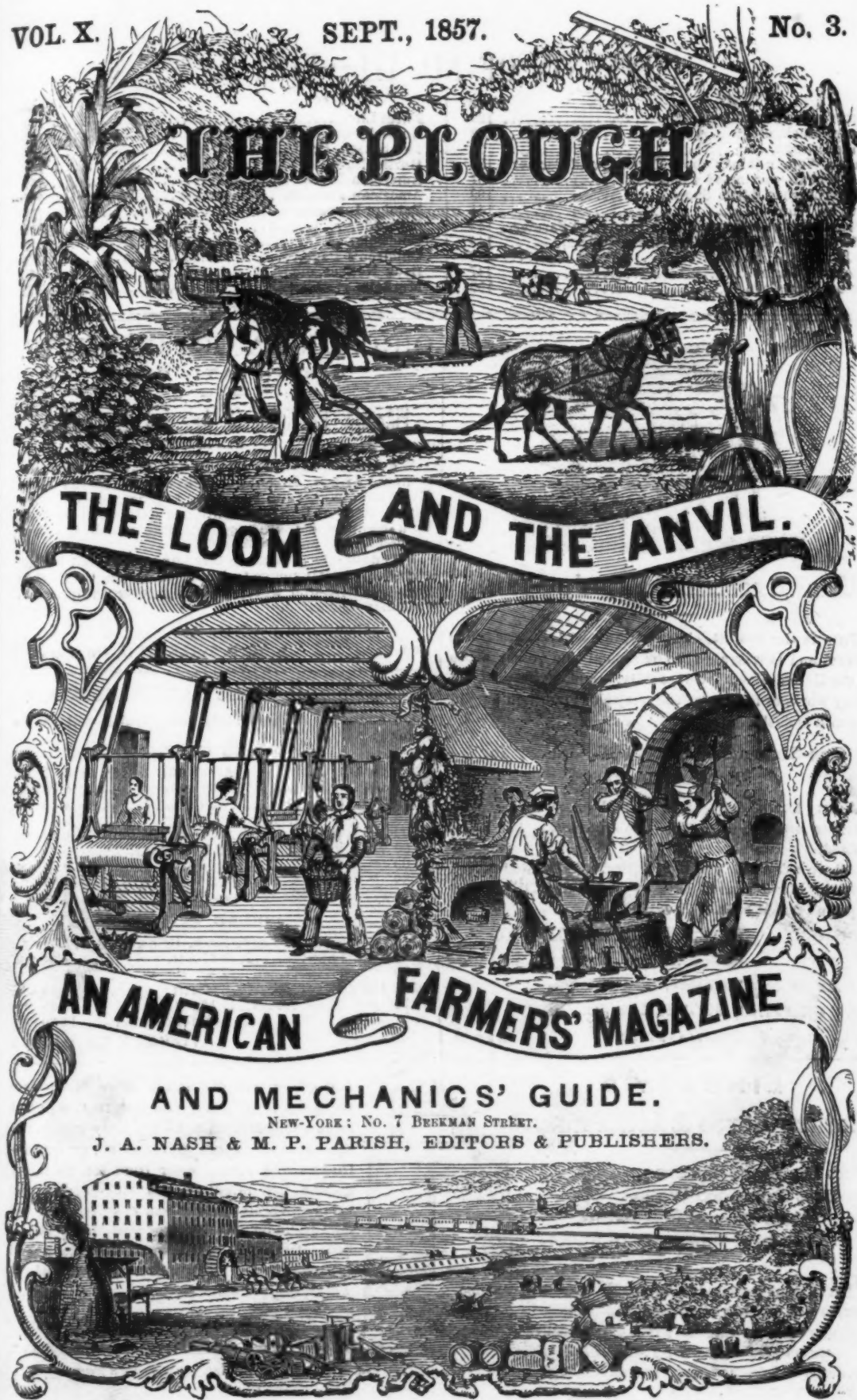
THE LOOM AND THE ANVIL.

AN AMERICAN FARMERS' MAGAZINE

AND MECHANICS' GUIDE.

NEW-YORK: NO. 7 BEEKMAN STREET.

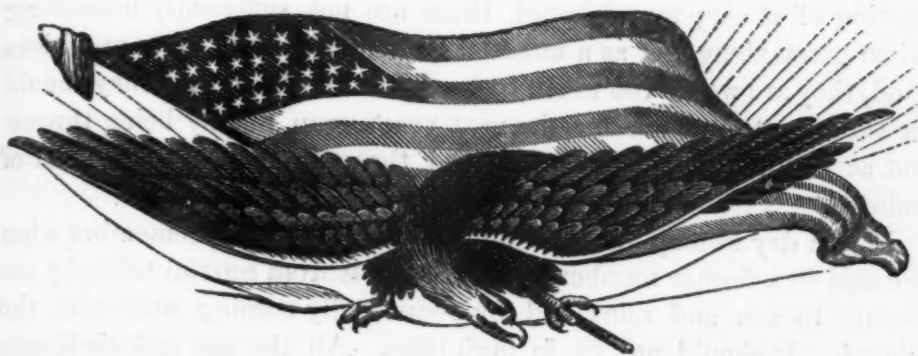
J. A. NASH & M. P. PARISH, EDITORS & PUBLISHERS.



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## AMERICAN FARMERS' MAGAZINE.

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### Hints for the Season.

BETWEEN the summer and the fall harvest is an interval favorable to general and permanent improvements on the farm.

The gathering of materials for composting and increasing the manure, is among the most important. Abundance of these from the swamp, from the borders of the woodland where leaves have drifted for years, from old hedges which you are about to clear up, or wherever you can get them most economically, should be scattered about the barn-yard, and a portion of them packed away in the barn, where they can be found for bedding in winter.

It is not of very much consequence what they are, any thing that will absorb the urine and retain it for the next year's crops. This is the farmer's guano, and he should save it. Fifteen dollars worth of labor, applied to saving and applying the urine of the farm, is worth more than any ton of guano ever brought around Cape Horn. Brakes mowed in the pasture, salt hay, leaves, dry muck, road scrapings, mold from old hedges, almost any thing will answer the purpose of an absorbent.

Wheat straw, oat straw, rye straw, pea vines, salt hay, if of a tolerable quality, and even the poor hay cut in pastures after the meadow haying is over, half brakes and weeds, are too good to be used for this purpose. These should be run through the hay cutter and fed to animals, when stock of all kinds and meats for the markets are as high as at present. Put on the corn meal and make these a help to the growing and fattening of stock; or if you have root crops, as most farmers in our country ought to have to a limited extent, these being of a succulent, juicy nature, will help to a consumption of the straw and inferior hay; and the farmer is not true to his own interest who



does not make his straw and coarse hay tell favorably towards the feeding of stock; for although these are not sufficiently nourishing when given alone, yet as a material for filling up with more nutritious food, they are worth too much to be thrown under foot. They should be turned into manure for the next year's crop, not by being thrown out as bedding, but by being passed through the digestion canal of animals.

If you dry swamp muck for an absorbent in winter, remember what we said in a former number about freeing it from hurtful acids, by exposure to sun and rains, and by occasionally turning over with the plough. It should not lie in high piles. All the sun and air it gets makes it the better. It is better therefore to dump it a single load in a place than to put it into large heaps; and if the loads are dropped along in a line, one after another, it is no great trouble to turn it over now and then with the plough. Farm engineering—what is it? Not a contrivance to get rid of work, but an application of common sense to make every stroke of labor tell to the best advantage; as, for instance, it is much easier to turn over a hundred tons of swamp muck with a plough if laid in a long line, than to fork it over if laid in a large pile. If you have more of this muck than you care for in the yard and the stables, look into one of our back numbers and see how, by the addition of a little quick lime, and by throwing it into large heaps just before winter, (the larger the better,) you may have it fermenting during the coldest weather, and ready to act an effective part in starting and carrying through the next year's crop, a richer fertilizer (in proportion to the cost) than any manure you can buy for sixty or seventy dollars a ton.

That there may be no mistake in our reference to a past number, and that our new subscribers, fast becoming a majority of the whole, may have the benefit, we will repeat in our next article one mode (tried over and over again, and thoroughly proved to be good) for dealing with swamp muck to prepare it for a next year's crop.

But there are other things to be done between summer and fall harvest. That wall that you have been contemplating to put up along the road these ten years—is it done yet? If not, can you be doing it now? Perhaps you say the corn is growing on the very ground from which the stones are to come. Well then, you must let it rest awhile longer. But can you not remove the old fence a little inside of where it now stands, and plough down and excavate with the spade and then fill up with small stones, and thus prepare a foundation for the wall, so as to be ready to build as soon as the corn crop is off? Remember that if you excavate, and lay the foundation of your stone wall two feet under ground, every foot of land within twenty feet of that wall will produce more ever afterwards. And remember too,



that if you do up now all that can now be done to advantage, you will not be so hardly pressed with work by and by, after the fall harvest comes on. One grand secret of American farming, is to equalize the work for the whole year, so as not to be out of work at one time and at another to have more than you can possibly do. A farmer of the right stripe never is out of work, and seldom has more than he can do. One of the wrong stripe, is often out of work, and very often unable to keep up with his work.

How is it with the public way through your farm or along side of it? you own perhaps, a quarter of a mile on both sides of the way, or it may be half a mile or more on one side. Is there a beautiful row of trees, maples, elms, apple trees, anything that will afford beauty and comfort to you and the passing stranger? Is the ground smoothed, made decent, safe, such as to indicate that a man of sense and public spirit lives in that house of yours, or is all as some slouchy surveyor of roads lift it, rough, shadeless, just as the King's—no, a republican—highway should not be? Just answer this question honestly, and if the highway through your premises presents a beautiful lawn, no Canada thistles, no rampart weeds, shades in plenty, fruit, if the soil permits, all right, a beautiful lawn each side of the drive, tasteful, safe, such that a carriage would hardly be upset, if the horses should run away, then we praise you; we say you are a good fellow so far; but if all is wrong, homely, ugly, deformed, no shades, nothing neat and safe, then we are down upon you; we say you are lacking in self respect. Why should the passer-by be compelled to say “a sloven lives there.” You are devoid of public spirit. If you will not make the borders of the highway through your farm neater than some tasteless, slovenly surveyor of roads leaves them, you ought not to have a farm. Shame on a rude, stumpy, weedy, pest-producing way past a farmer's house! It ought never to be.

How is your farm laid out? Are the fences crooked, where the nature of the soils would just as well admit of their being straight? Are your lots of such shape as to escape conviction under the second commandment, because not of the shape of anything else in heaven or on earth or under the earth? Are they so small as to make the expense of even a poor fence around them enough to eat up all the profit of the crops? The cutting of a farm into mince meat, having more fences than you can possibly afford to keep in good repair, devoting one-fourth of the whole land to broken fences and filthy hedge rows, a gathering place for mice, weeds, briars and all unclean things, is a miserable policy. A well laid out, well fenced, and well cultivated farm, is the most beautiful object in nature. The eye of taste and sound judgment sees there the beauty of nature, and the beauty of utility, and is satisfied. If your farm is not laid out as taste and convenience, and

economy in the matter of fencing requires, September is a good month in which to commence a reform, to be carried on next spring, and completed in future years.—Ed.

### Swamp Muck---Indian Corn.

*Swamp Muck*—How to get it out and apply it without too much labor. *Indian Corn*—How to grow it with composted muck.

After it has been thrown up a few days, exposed to the sun and drained, carry it to the barn-yard, strew it over the whole yard, and at some convenient time when there has been no rain for a long time, pack away a portion of it for an absorbent in the stalls for winter's use. Every farmer who has this material on his farm, as most have, can make use of a considerable quantity in this way to great advantage, and it will increase the value of the next spring's manure much more than the cost of the labor.

But when you have enough out for the yard and stalls, or if it is distant from the barn, and not far from the fields where you will use it, so that it would be bad policy to haul it all the way to the barn and back again, then dump it on a level or gently sloping piece of ground, a cart load in a place, in a long line, and occasionally run the plough through it from the time you get it out, say in August or September, till nearly winter, that the whole may be washed and sunned. This is to remove the sourness. Then, just before winter sets in, mix a bushel or two of lime (one bushel if lime is high where you live, two if it is cheap) to each load of muck, and throw it (with the scraper will be the most economical way) into a very large, or as the case may be, into several large heaps, the larger the better, provided the labor be not thereby too much increased, and let it lie thus till spring.

The effect of the lime is to neutralize any remaining sourness and to create a fermentation in the mass, keeping it warm through the coldest winter. On any gravelly, sandy, or loamy land, or even on clayey soil, if nearly destitute of organic matter, this can hardly be applied amiss, whether as a top-dressing or to be plowed in. It should never be applied to peaty soil, not but that it would benefit such, when prepared with lime as we have described, but it would be of more value for other soils.

The best use we have ever observed for this compost, is to put with each load a load of barn manure, a bushel of ashes, half a bushel of salt, and a peck of plaster, and when the whole has come into a tolerably active fermentation, to plough in ten loads to the acre on the corn field, and put ten more in the hill, and to drop and cover the corn as fast as the application is made, so that the heat of the compost will hasten the germination of the seed.

This mode of growing corn has been long practiced in some parts of our country, and with signal success. We will not say that such a compost is as good as Peruvian guano. That would be extravagant; for we believe it is now a settled point that Peruvian guano is the best fertilizer, ton per ton, in the world. We are as loud in our praises of it as we are obstinate in our opinion, that the great mass of American farmers *can not*, for the ordinary purposes of farming, *afford to purchase it at present prices.*

No, no; the compost we direct for preparing is not as good, ton per ton, as Peruvian guano, not half as good, not a quarter; and yet the farmer can afford to use it, because if he has the material at hand, as most farmers have, he can get a whacking profit on the labor of preparing it. This swamp muck is more valuable than most farmers are willing to admit. Its composition is much the same as that of cow-dung, with the exception of a few salts which have been washed out and must be restored in the process of composting; and with one other exception, which is, that in most cases it has accumulated certain acids of a hurtful nature.

In other words, it is the same as cow-dung, with a few valuable salts taken out and some hurtful acids added. It should not be used in this state. Those who so use it always give a bad account of it. The plan we propose—a plan that has been tried out and out, no mere theory—provides for disposing of the acids and for restoring the salts. The autumn suns and rains will take away the acidity mostly. The lime, with which it lies in compost over winter, will neutralize the remaining acidity and bring it into a slow fermentation. The barn manure, ashes, plaster and salt, proposed to be added in the spring, will supply the lost salts and bring the whole into an active fermentation.

The cost of manuring Indian corn with twenty loads to the acre of this compost, say ten or twelve loads to be plowed in, or harrowed in near the surface, if the soil is at all heavy, and eight or ten loads in the hill, applied hot from the heap, and the corn covered immediately, is not a very expensive dressing. It insures a good crop—forty to eighty bushels shelled corn to the acre, according to the quality of the land, with good cultivation—and it leaves the land in excellent condition for after crops.

Who, that has not before, will try it? Remember to get out the muck early this fall; drop it not more than a foot in thickness, that it may feel the sun and rains; stir it occasionally with the plough, that the whole may be sunned and aired; add the lime late, just before winter sets in; the other ingredients should be added early in the spring, that the whole may have time to come into a pretty smart fermentation at the time for using it. For starting the crop, which is



always an important matter with corn, much depends upon its being applied in a fermenting state.

If the manure you add in the spring is of a fair quality, having a due share of urine, there will be no difficulty about the fermentation coming on in time. Should it fail however to ferment, it will be easy to bring on a fermentation by applying to the heap a load or two of fermenting horse-manure, which will act as a yeast, and send the fermentation through the mass.—ED.

FOR THE AMERICAN FARMERS' MAGAZINE.

### Osage Orange.

MESSRS. EDITORS:—Questions like the following are often asked: "Will it not winter-kill in this Northern climate, it being a Southern plant?" On page 171 of the previous volume of *The Plough, the Loom, and the Anvil*, I gave my experience in raising the plant from the seed; and another hard winter has proved to me that they will stand this climate, and not winter-kill but very little, if rightly managed. A more severe winter was never known in these parts than the last. No winter has ever hurt fruit trees worse. My osage plants "came out safe and sound." It is my opinion that this plant will become acclimated, and be the adopted fence of this prairie country. One way to protect it from the frost is, to cover it over with straw or something else that will protect it from the wind, and cause the snow to drift upon it, while it is young. After it gets to be three or four years of age, if the frost does kill the tops down, it makes it all the better for a fence. Last season being very dry in the forepart, I had my hedge cut, and kept it clean from weeds until harvest and the busy season of haying came on, and several heavy showers of rain started the weeds. My being busy at cutting hay, I did not hoe them out and keep them from growing, as a tidy farmer ought to, but let them grow until the frosts killed them forever.

When cold winter made his appearance, accompanied with tingling frost and snow, searching winds, that meddled with every one's business out of doors, and very often in the house, especially where the cracks between the logs were open, and took great pains to take the snow from the field and prairie and pile it upon heaps behind fences, etc., then the weeds that I neglected to cut out of my fence came into good "play." Here it was that the snow had been piled nearly to the top, and the result was that they did not kill down but a few inches. This no doubt saved them in a great degree from being killed down much lower. Those that did not have the "luck" to stand where the snow drifted upon them, were killed within twelve inches of the ground, the stem being some two feet high. After the

stalk becomes old, I do not think the frost will injure it for a fence.

In a letter published in the *North-Western Christian Advocate*, by Wm. G. Nevitt, he says, speaking of the osage orange: "After about four years experience in trying to make a fence of it, I believe I shall succeed very well, when I have a good board fence outside and an old rail fence inside. In this way it will be preserved in winter from the frost by filling up with snow, and from stalk in the summer; but when it is left by itself it will winter-kill sufficient to spoil it for a fence, on most of our prairie lands." I can not agree with Mr. Nevitt, although experience may compel me to do so. I have seen hedges at five, and even at four years of age, that cattle could not break through nor over it, in this State, and I think the winters are as severe here as in White-side county, Ill. A portion of my hedge lay exposed to the N. W. winds all winter, and they have come out "right side up" this spring.

"Nothing ventured, nothing have," is an old proverb, and I have commenced with the seed two years ago last spring, and I intend to carry it through and see what it will do. If it will not do for a fence, then we farmers of the prairie must do something else in regard to fencing our farms, for our small piece of timber will soon be gone, and if the osage hedge will not stand the winters, then we shall have to get up some other Yankee invention. Something certainly will have to be done not only upon the prairies but in the old settled timbered States.

Osage hedge may want, and must, like everything else, have care. No farmer expects to raise a crop of corn without tending it. He ploughs and hoes it; he must do the same with his hedge; he must cultivate it and keep it trimmed down, so that it will thicken up at the bottom. Unless he does this, he can not expect to have a living fence.

Messrs. Editors, neither you nor your correspondents have ever said much upon the subject of fencing. Why is this? Are your correspondents asleep upon this important subject? a subject that costs the farming community millions of dollars annually. Rails and boards will soon become extinct in fences.

I hope that the correspondents of *The Plough, Loom, and Anvil*, will speak out upon this subject, the editors not excused. Our country, both east and west, and all of Uncle Sam's dominions, will soon see the want of something to fence with besides boards and rails. Unless something is used for a substitute we shall have to return back to the days of the patriarchs for an example.

LYNN, Warren Co., Iowa.

L. S. SPENCER.

*Remarks.*—This subject is important, though perhaps not quite as

pressing as the writer seems to think. Our country is large, and it will produce not only rich harvests, but timber for fencing them with. From a quarter to a third of every country should be timbered. It should be so on the prairies; and if the occupants of these vast regions understand their true interest and comfort, they will make haste to break the prairie winds with trees, in clumps and groves and small forests; several farmers, in many cases, uniting to extend these wind-breaks continuously past their premises. Almost any country, if rightly managed, will grow timber enough for shelter, and for purposes of fuel, fencing and building.

The subject of hedging, however, is one of great interest. A live fence is better in some respects than any other. It breaks the wind better; is not liable to be blown down; gives beauty to a region; and above all, affords a covert to birds, which, we begin to think, are the only power that can war successfully upon insects destructive to the products of husbandry. We really hope that the osage orange will bear our Northern winters, but do not think that point yet fully settled.

In some parts of our country fences are beginning to be dispensed with. This practice, in connection with soiling, may be extended; but we see not how it can become general; and we quite agree with the writer of the foregoing that it is important to experiment, and to be ascertaining, as fast as may be, what shrub is best adapted to the construction of living fences in our various latitudes. The writer of the above has our thanks for his experience, though it does not seem to us very decisive; and if others will give us the merits and the deficiencies of the hawthorn, buckthorn and other plants that have been used or recommended for hedging, our pages shall be open to their contributions.

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### **What a Woman Thinks about Farming and Farmers.**

A LADY writer at the close of a very womanly and very sensible communication, not designed, we suppose, for the public eye, thus gives vent to her admiration for the farmer's calling:

"Your journal has much improved in its style, composition and subject matter. Even the children now, have a little corner. Though I may not raise corn, yet I like to read how others raise it. If I had the means, I would be a great farmer though I am but a woman. It is the noblest pursuit of earth, one that leaves no sting after its accomplishment, but on the contrary gains a contented, cheerful spirit, and brings with, not overwearied limb and brain, the sweetest sleep, and a calm conscience. A man can not be bad-hearted who is a steady, untiring farmer. How can a man's heart be anything but fresh



and green when he works in nature's wide domain with the blue sky over him? He *must* be good, in spite of himself, whether he will or no. Give me a farmer before other men. But I am tiring your patience. Please excuse me;—you know I am a woman and I *must* talk.”

### Seed Wheat---Mixing of Varieties.

As the season for putting in the wheat crop is near, farmers would do well to consider the importance of sowing only the best seed. They have been too much in the habit of threshing out a few shocks for sowing, without much consideration of the soil on which it grew, and without sufficient care to cleanse it perfectly of smut and of such foreign seeds as might injure the crop, as if they would say, “Wheat is wheat, the world round, and if we sow wheat we shall get wheat.”

We see it stated in the agricultural journals of some of our great wheat-growing States, that great advantage is derived from the exchanging of seed. It is recommended not to bring seed from a widely different climate, but to select with regard to variety of soils—to sow clay lands with seed from loamy soils, and the reverse. There may be something in this. We presume there is, or it would not come recommended from so high authorities as it does, as from the *Michigan Farmer*, for instance. Still we should look more at the perfection of the crop out of which the seed is taken, than at the character of the soil.

Suppose we had harvested but a small crop the past year, and that not of the best quality, and that a neighbor, no matter whether very near or not, for good seed is worth going after a considerable distance, had harvested a very perfect crop, say 40 bushels to the acre, clean, not a particle of smut, no cockle, nothing but the unmingled gift of Ceres, and suppose he would sell it for a trifle more than the average price of wheat at the time, we would sow that seed in preference to our own, provided the variety were one we approved; and then we would cultivate with the same nicety and care that our neighbor had.

A new thought, at least new to us, about wheat. M. Lucien Rousseau, of Angerville, France, has broached the idea, or rather has stumbled on it by accident, that the mixing of varieties of seed is favorable to the wheat crop. In 1855, he experimented upon fifteen varieties of wheat, sowing each by itself, and noting the results, both in weight of wheat and of straw. The disparity, on the same land and with the same cultivation, was remarkable. But what was more remarkable, and the only point to which we wish to call attention, was that after sowing the fifteen varieties, a little seed of each remained. These fifteen parcels he mixed together and sowed on a separate patch, and

although the land was no better, was more shaded, and no better cultivated, the crop far surpassed either of the plots sown with a single variety.

M. Rousseau's reasons, which we copy below from the *Michigan Farmer*, appears hardly satisfactory to us, and yet there may be something in them. At any rate we would recommend a trial of the same experiment. It would be but little trouble to sow a field with five or six of the varieties accounted best for that region, keeping each variety separate, and then sow another part of the same field with a mixture of all, and note the results. The farmer who would make the trial for himself would have the advantage of knowing whether there is utility in the new idea, or whether it is to be ranked with the thousand and one humbugs of the day. M. Rousseau's reasons are as follows:

1. The several varieties do not head out at the same time, and therefore the period of flowering is lengthened, and the chances of fertilization are thus increased.

2. The several varieties are unequal in height, some being shorter than others at the time when the plants flower; the heads therefore are not so close, are more exposed to the air, and the floration is likely to be more perfect, and the fertilization more general. This theory seems to be confirmed by the fact that where wheat plants are most exposed, or are a little thin, other circumstances being equal, the fertilization is more general over the whole head, than where the wheat is thick.

3. The crop seems to ripen better from the same cause, namely, the inequality in the height of the varieties, and in proof of this it has been remarked that in mixtures of wheat and rye, often sown in Europe, and of barley and spring wheat, the grain is finer than that of the same grains grown separately, and under the same conditions. This is considered to arise from the more complete aeration afforded by the two kinds of plants, one of which grows high and leaves room for the sun and atmosphere to ripen the whole more perfectly, than when the surface is composed of one unbroken mass of heads of grain which shut out the light from the leaves and stems, and thus ripens one part of the plant before the other is matured.

4. Another advantage claimed by this mixture of seed, is that the crop does not depend altogether upon one variety, which of itself may be unsuitable for the soil where it is sown. The strong and healthy varieties will always fill up the spaces left by the decay of the more delicate or tender kinds, and thus in some degree be more likely to insure a crop.

We have often noticed that a kernel of wheat in a rye field tillers wonderfully and produces remarkably well. Is it possible that the different kinds of wheat will produce a like effect on each other?—ED.

### Many Things in Little Space.

A FRIEND of ours tells us that, not long since, his garden and orchard became infested with myriads of worms, (does not know the name,) and they increased to such a degree that it seemed as if every green thing would be devoured. There came along a flock of cherry birds, which gorged themselves on the worms, and when hungry returned again to the attack, till in three or four days not a worm remained. We know not what kind of worms these could have been, nor did we know that cherry birds devoured worms of any kind. But of one thing we have no doubt,—that our friend's premises were sadly infested with some sort of worms, and that some kind of birds, which he called cherry birds, did him a capital job in clearing them off. In a recent trip of 1000 miles, out and back, we have scarcely stopped at a public house where there were not two or three things in the shape of men, with double-barreled guns, talking over their grog of their exploits in shooting birds, not those desired for food, not because they had done mischief, but simply for the pleasure of killing them. Pleasure! What pleasure can there be in killing an innocent bird and leaving its young to perish for want of a mother's care? Shame! shame! It is not Gothic; it is not Vandal; it is not barbarian! The insinuation would be a slander upon Goths, and Vandals, and barbarians. It is simply American. City gents lead off and country boys follow, and whole regions are being desolated of their rightful tenants. Song and beauty and the poetry of motion ceases from the grove. Insect life will of course become rampant. Again, we say, shame!

We see that a writer in the *Ohio Cultivator* recommends the planting of wormwood about the roots of trees to keep off the borer. He says that the wormwood operates as a mulching to the roots, securing them against injury from drouth, and that its odor prevents the deposit of the eggs which produce the borer. It may be so.

We have from our correspondents not a few accounts like the following: "The span-worm has lately made its appearance in Meigs county, (Ohio.) In May it completely destroyed the leaves and left the trees destitute of their foliage, with the appearance of having been scorched by fire." Whether the span-worm of our correspondent is the canker-worm that is doing so much mischief in the Eastern States, is more than we know. The effects of his ravages are similar. Nor do we know whether the cherishing of birds by all possible means, such as surrounding our buildings with trees, planting hedges for fence where we can do it with tolerable economy, leaving them to enjoy life, instead of shooting them in *cold-blooded* fun, would cure all the ill's flesh is heir to from insects; but we are strongly inclined to



think that Divine Providence has set one thing over against another, as the birds against the insects, so that the former are to feed mainly upon the latter, and the latter to be thereby kept within bounds. Man can not destroy insects. Birds can. Two hundred of the wheat-fly were found in the maw of a wren. Supposing one-half of these two hundred flies to have been females, and that each would have deposited in the heads of wheat one hundred eggs, then 10,000 enemies of the wheat crop were prevented from having a being in one morning by a single wren, and this, looking only at her own food. But who knows but that she had two young, and that she gave them an equal number. Thirty thousand enemies, in that case, were cut short of a being; and if thirty thousand in a morning, then perhaps a hundred thousand in a day; a million in ten days; and if a million by one bird, then how many by all the birds on a farm, from which the monsters, with double shooters, are excluded? Enough, it may be, to essentially diminish the ravages of the weevil for the present and hasten its extermination by many years.

The *Western Farm Journal* says that, in agriculture, "there is no capital so essential as intelligence, and that a dollar's worth of this kind of capital will return a hundred fold in corn and cattle." True, every word.

Mr. Robert Leever, of Iowa, publishes that on a patch, 59 feet by 14, (less than three rods,) he has gathered this year four bushels and three pecks of strawberries, equal to 232 bushels to the acre. McAvoy's Superior was the kind. This is a great story, but not too great to be true. We have seen crops this season that could not fall much short of this.

We understand that Baldwin, De Witt & Co., of Cleveland, Ohio, have turned out 900 of Manney's reapers and mowers this year, and yet have not supplied the demand. John S. Wright, of Chicago, told us last fall that he expected to manufacture 5000 of these machines in that city, and 3000 in Dayton, Ohio, in one year. These establishments are but two out of many. A great country.

Lysander Pelton, of Gustavus, Ohio, purchases the curd of his neighbors, and will make, it is said, 250 tons of cheese this year. A considerable business this. 250 tons is 500,000 lbs. This at 10 cents a pound would come to \$50,000. As the prices of meats and dairy products have been for several years past, it would be hard to see why grass farms will not pay.

At a recent discussion by the American Pomological Society, it seemed to be agreed on all hands that the Roxbury Russet is an excellent fruit for nearly all parts of the country, more a national apple than any other, except that Mr. Ernst, of Cincinnati, had found it to vary much in quality on different soils, succeeding well on alluvial, but

not as well on clay soils; and it was stated not to be doing as well in some parts of Ohio as formerly. The Baldwin, so valuable in the Eastern States, is not sufficiently hardy for the West. Most of the trees in Iowa and Northern Illinois, which were reported well of a few years since, are dead by the severe winters. Possibly this may be from growing too rapidly on an over fertile soil.

The committees on reapers and mowers at the late trial in Syracuse, we understand, are not to report till after the national fair at Louisville, Ky.

While we write these items, the temperature is but little below the scalding point. Perspiration flows, but not ideas. Our clothes stick to us. Why may not gentlemen wear hoops also?—Ed.

### **Smut on Wheat.**

SMUT seems to be a parasitic fungus, of which there are several varieties, as on Indian corn, wheat, etc. The black dust of matured smut is to be regarded as its seeds, each particle of which, however light and evanescent, is capable of germinating and producing its kind when brought into favorable circumstances. It is difficult to say precisely how these seeds find their way into the receptacles of growing wheat. But it is probable that they adhere to the kernals of wheat when sown; and we know that in some way they are carried upward with the growing plant; and are developed at the base of the newly forming kernels, simultaneously with the bursting of the spike from its sheath, or perhaps a little before the head makes its appearance. From this time the fungus grows and develops itself more or less rapidly, as the weather favors or otherwise, drawing its nutriment from the plant, thus partially depriving the forming wheat of its appropriate food, as well as insinuating a hurtful ingredient.

Now, on the supposition that the smut in wheat comes from sporules (smut seeds) distributed with the seed wheat, which we suppose to be correct, it follows, that if you could wash the seed before sowing, perfectly clean, there would be no smut in the crop, for however warm, damp and lowery the season, smut will not grow, unless there is seed for it to grow from. But it is impossible to secure perfect cleanliness from these sporules or smut seeds. They are too minute to be all washed away; and their vitality is not destroyed by pure water. Hence the importance of washing seed wheat in some solution that will destroy the vitality of such of the sporules as fail to be washed out.

Salt, plaster, quick-lime, arsenic, sulphate of copper and other things have been recommended. The first is always at hand, and the next two are seldom far absent from the farm; and we believe that these

are sufficient. If the seed be first washed in pure water, then in a weak brine, of say one quart of salt to a pail full of water, and then dried in plaster or quick lime, (the latter not to be used too fresh nor very freely, lest it injure the vitality of the wheat,) we think that there will be little danger from smut, and that the operation will be favorable rather than otherwise to the germination and early growth of the seed wheat.—ED.

FOR THE AMERICAN FARMERS' MAGAZINE.

### **Extracts from the Journal of a Tennessee Farmer.**

*July 20, 1857.*—I have just finished cutting and shocking the wheat crop, which, by reference to former leaves of this journal, has been done about eighteen days later than usual. Last September, about the 20th, I sowed sixty acres of bottom land in white blue stem, which I will call field No. 1. This was a field which had lain in clover three years, the crop of mat and seed was turned under in August at a depth of say five inches, and one and a half bushels of seed wheat was put down to the acre.

Field No. 2, of twenty-five acres, was sowed October 1st, on oats stubble land turned in the same way, and with one and three fourths bushels *Quaker* to the acre. Both fields were harrowed in. So far as I am now able to correctly guess, the yield to the acre of field No. 1 over that of field No. 2, will be as 24 to 15. The past winter was long, cold and dry. The same sort of weather, though milder of course, characterized the spring, and indeed up to the date comparatively. This I think may account for the late harvest.

Our farmers in East Tennessee, generally, have gathered this year one of the very best (in all respects) crops of wheat ever harvested here in the memory of man. Last year this (Hawkins) county sold to foreign markets about 50,000 bushels. Twice that amount can be doubtless spared this year. The crop of last year was good, the market fair, and transport easy. But the corn crop was short, which made the home consumption of wheat greater than usual, because horses, cows and hogs were fed upon this grain for several of the last months, there being no corn at all. Now we are promised a bountiful crop of the latter grain, though *it* is some four weeks later than formerly, just now exhibiting the tassel. On a former leaf it may be seen that "July 19th, 1854, we had full grown roasting ears in the field." In this year's crop of wheat I am thankful that I am able to record truthfully a marked improvement in the culture of it generally, which has conducted our farmers to the happy result of an evident superior *quality* of wheat, as well as increase in quantity as hinted. In this desultory and often hastily sketching of odds and ends upon



various subjects, I am aware that repetition is very often chargeable to me. It may, for aught I know, be justly so in what I further say. But in the ideas I proceed notwithstanding. Then, of the varieties of wheat grown here, that mentioned as having been raised on field No. 1 seems to stand first, and I think, everything considered, merits the place. It is a smooth head and rather round, plump, small berry, with a very small mesh with thin, tough and whitish bran. This year there was generally about 90 to 120 grains in the head, three grains in a breast on two opposite sides, with two on the others, and from nine to twelve and now and then fourteen deep. The stalk grows rather taller than other varieties, the straw thinner and of a blueish yellow color, (imparting the name,) soft and tough like tanned buck leather, and hence very difficult to harvest with a machine reaper. In my notes of last year I say  $23\frac{1}{2}$  bushels yield to the acre of this wheat on average of 65 acres, some of the land not very well prepared, nor adapted to the grain, but the greater portion might compare with most of my neighbor's favorably. My neighbor, Mr. C., told me he raised thirty-four bushels to the acre. When I speak of bushels I mean dry *measure*, four pecks or thirty-two quarts, which of this class of wheat weighs sixty-six pounds avoirdupois. When well ground and bolted, the good flour is seventy per cent., or seventy pounds flour to one hundred pounds wheat of a snow white, is dryer and consequently better.

Of that kind of wheat raised on field No. 2, much has been said in its favor. It is a bearded head, long, heavy red berry, with a deep mesh, two grains in a breast all round from eight to twelve deep. The straw is heavy, large, and of golden yellow hue. It is very subject to fall on account of the immense cavity in the stock. It weighs sixty pounds the bushel, and fifteen bushels are an average yield per acre. The flour is of rich yellow cast, is not so glutinous, kneads freer and smoother than the former, and the bread may perhaps require less condiment to be as nice to the palate. The bran is thicker and less elastic; the proportion of flour sixty-five from one hundred pounds. Millers say their mills need not be so sharp to grind it, and that it bolts freer, whilst the size of the berry renders it less subject to waste. Meantime its advocates contend it is not so liable to disease, which I think from my observation is true.

It was, I think, once said that wool and wheat grown south (of say  $36^{\circ}$  north latitude) *could not* be so good as that raised farther north. I respectfully invite future facts in denial of the proposition, and whether or not as far down as 32 degrees much difference is found. Mr. M., a gentleman from Ripley, Mississippi, visited us this summer, and in talking on this subject, he asserted that there was as good wheat

raised in his State as in any other in the Union. And what is a little strange, he said good wheat is now grown on lands that fifteen years ago were covered with water the year round. *Cold* countries, it is generally conceded, have the advantages in the growth of wheat. In point of *climate* this may be fairly so. Yet may it not be very likely that a warmer country may have an offset in the way of *soil*, so that the result may with the same farming in either country be the same? Probably more lies in farming from the field to the table inclusive, than in either climate or soil, because we have been long ago admonished that, "In the sweat of thy face shall thou eat bread till thou return unto the ground."

A. L. B.

MILL BEND, Tennessee, July, 1857.

FOR THE AMERICAN FARMERS' MAGAZINE.

### Old Pastures---How Shall We Reclaim Them.

BY DAVID RICE, M.D.

WHEN I try to cure a sick patient, I, in the first place, study the pathology of the case, or, in other words, seek the exciting cause of the disease. The true nature of the complaint being found out, it is a very easy matter to apply the proper remedial agents.

There is a certain disease called chlorosis, in which there is a lack of one of the elements of the blood—a loss of a portion of its coloring matter—iron. The patient suffering from it, loses the glow of health; the light and life leave the eye; the roses upon the cheeks are supplanted by the pale lily, and a deadly pallor, almost like the touch from the easel and pencil of death, spreads over the whole body. The exciting cause here is a *lack* of one of the actual elements of the blood, rather than any foreign miasm acting through and poisoning the life-fluid, thereby communicating disease. We cure chlorosis by supplying the lacking element, administer iron, and it almost always effects a cure.

Old pastures that have lost their vitality—pastures that once luxuriated in verdant greensward—whose broad surfaces were clothed with a thick, velvet verdure of green blades and tender clover foliage, but have now become dry, barren and sere, covered with a garb of sorrel and whortlebury bushes. Such pastures are really sick. The disease is a sort of chlorosis. There is a lack of some important element or elements of vitality. The continual cropping of the vegetable life has deprived the soil faster than the decomposition of the rocks underneath could supply of one of its sources of fertility, and the fountains of vegetable life are dried or drying up.

Vegetable, as well as animal life, is dependent upon the presence

and operation of certain proper principles of nutrition. Take those away and life becomes extinct. Let the best pasture (unless it has an inexhaustible soil) be fed year after year, without supplying it artificially with the necessary pabulum, and in the end it will become an "old pasture," a "worn out pasture." It will certainly die at last with a loss of vitality.

Can such pastures be cured? I answer, Yes. How shall we restore them and cause them again to rejoice in the green garb of youthful beauty, and to bud and blossom again as in their pristine state?

We must bring about this revivification by supplying them with their lost or lacking elements, or supply some element or substance that will by uniting with the already existency and present agents exact more rapid decompositions among them, and in this way supply the loss. For it is certain that sometimes the application of a single substance like ashes or gypsum, will effect a wonderful transformation. In its affinities, compositions, and decompositions, and double decompositions will ensue, and a great many of the real elements of vegetable life will be evolved; and so the barren earth will rejoice in verdure and beauty, and the husbandman be compensated for his toil.

How shall we ascertain the true pathology of the case, or how shall we learn what substances are lacking in order to apply the proper remedy? There are two ways—first, by chemical analysis; second, by actual experiment. A practical agricultural chemist by viewing and analysing soil will readily tell what are the most proper fertilizers to apply to a worn-out pasture.

Actual experiment, perhaps, is as good a way as any. Several substances—plaster, lime, ashes, muck, bone-dust, guano, barn-yard manure, or a mixture of two or three of these, can be applied separately in sufficient quantities to small patches of pasture in a single season. The result will tell what is wanting. The want ascertained, then apply it. This will do on pastures, but not on patients. We can experiment on the former to good advantage, but not on the latter. Let me tell you how an esteemed neighbor of mine cured a worn-out pasture of his by the application of plaster. Hear him. The gentleman to whom I refer is Moses Field, Esq., of this town.

"My experiments indicate that Plaster of Paris improves old pastures, when the underlying rock is new red sand-stone, or the conglomerate or pudding stone, which is made up of rounded granite boulders and pebbles, cemented together and slow of decomposition.

"In 1851 I applied 500 lbs. of plaster to five acres in Leverett, northwest of Long Plain, upon the lower slope of Mt. Mettawampe, with marked results. In two months the imperfection of the work of sowing was indicated by waves in the grass as distinctly as the waves in



an unevenly sowed piece of grain. In October, 1854, I sowed sixty acres. The effect was not visible the first season, and not until the latter part of the second; but at the third season the difference on the whole was strikingly marked. On the more exhausted pasture lands, I think the quantity to the acre of plaster should be about three hundred pounds. My pasture that for sixty years has borne little nutritious food for my stock, is now clothed with rich waving grass."

Mr. Field's experiment proved that plaster was needed on his land to effect a cure. It probably acted by new elementary principles from the rocky soil beneath, as well as by the effect of its own presence. Another pasture might require lime, ashes, guano, or bone-dust, or a mixture of some of them.—Ed.

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FOR THE AMERICAN FARMERS' MAGAZINE.

### **Birds, Mischievous and Innocent, on the whole Beneficial.**

AMHERST, Mass., August 10, 1857.

MESSRS. EDITORS :—Having for the last four or five years carefully studied the habits of our summer birds, I would like to say a few words through your Farmers' Magazine concerning the crow, one of the most common of our resident birds.

It is considered doubtful by many whether the crow is in the habit of destroying the nests of other birds. On several occasions, upon visiting the nests of robins and other of our—I can almost say—domestic birds, in which only a few days before I had seen eggs, I have found them much disturbed, and, with the exception of a few small pieces of broken shells and drops of yolk, entirely empty. Until last May I was unable to account for this. About the middle of that month a pair of robins built a nest upon an apple tree in the yard. I felt a peculiar interest in these birds, for they had occupied a nest in that same tree for several successive years. Well, these birds in due time laid four eggs, and commenced the process of incubation.

Everything was going on regularly and happily, when one day my attention was attracted by the loud screaming and crying of both parent birds. Upon looking at the nest, I discovered an old crow sitting upon the branch nearest the nest deliberately eating the eggs. The robins fought bravely, but were unable to force him to abandon the feast. I immediately took sides with the robins, and quickly drove the intruder to the woods, but it was too late. The nest was destroyed and the eggs eaten. I have upon several occasions since, seen the crow engaged in the same thieving business; and I now consider it quite settled, that the crow, as has frequently been charged

upon him, is a robber and devourer of the eggs and young of the smaller birds, as well as a notorious rogue in the cornfield.

But it is said, "The devil should have his due;" and it can not be denied that the crow is a valuable scavenger, and that by the gorging of grubs, beetles, moths, etc., he is an effective auxiliary to man in the battle he is constantly fighting with the insect tribes. Whether the good he does, or the evil, preponderates, I leave others to judge.

Truly yours,

N. S. C.

The good done by any bird that enlivens our American heavens, probably outweighs the evil. We have not one quarter as many birds as we ought to have, and as we should have but for the insensate folly of popping them over for the fun of it. To us it seems a most cruel, heartless sort of pleasure to kill innocent birds when gathering noxious insects for themselves and their young, and yet there are thousands pursuing it. Robins, swallows, everything that has wings, falls before them. It is a shame, and will cost the farmers of the country hundreds of millions, if it can not be checked. Man has no adequate protection against insects but in the birds. Let us protect the birds and they will protect us.—ED.

### American Guano.

THE ship *Aspasia* is hourly expected laden with one hundred tons of this superior fertilizer from Jarvis and Baker's Islands, two of the possessions of the American Company secured and protected by a late act of Congress. The attention of agriculturists is particularly called to the following facts:

#### ANALYSIS OF JARVIS ISLAND GUANO, BY DR. HAYS.

Crenates and humates of ammonia.....	18.50
Oily matter and eithific acids, embracing water and carbonic acids:	
Phosphoric acid and lime.....	86.00
Magnesia from humates.....	2.21
Sulphate of lime and sulphate of soda.....	14.96
Silicia or sand.....	82

Total.....117.49

#### ANALYSIS OF BAKER ISLAND GUANO, BY DR. GALE.

Organic compounds yielding ammonia, etc.....	9.940
Combined water.....	2.500
Carbonic acid from organic compounds of lime.....	600
Bone phosphate of lime, and bone phosphate magnesia, (containing phosphoric acid, 38.67).....	83.266
Sulphate of soda.....	1.263
Common salt.....	1.615
Loss.....	816

Total.....100.000

The analysis shows that more than 80 per cent. of these guanos consist of the phosphate of lime and of magnesia, in an insoluble state, or

in just such a condition that the roots of plants will take up and appropriate so much of the salt as is requisite to perfect the same.

Now, if we examine the analysis of wheat, one of the great staples of our Middle and Western States, we find that every 100 pounds of its ashes contains from 50 to 60 pounds of these phosphates, which must have been taken up from the soil. A large part of these salts are required to form the hull or envelope of the kernel, and are indispensable to the perfection of the seed. Hence the special value of the phosphate guanos. And furthermore, as they are only soluble by reason of the vital power of the plant, they remain in the soil as a reservoir, ready to be drawn upon only when the roots of the plant require their appropriation to perfect the growth thereof. These are the reasons why the guanos in question should be used in preference to the ammonia-yielding guanos. The effects of the former last for years, and the soil acquires from its use an accumulative power; while the latter, annually applied, is exhausted with the crop; the soil indirectly becomes exhausted from the annually forced crop.

These are interesting and useful facts for the farmers of our country, and for this reason we publish them.

The Commissioner of Patents has distributed five barrels of American Guano to farmers and planters in every section of the Union, from Maine to Texas, with circular forms to be filled up by them of the results of the experiment. Any one may be convinced of the superior excellence of American Guano, by calling at No. 66 William street, in this city. The Peruvian article is now held at \$70 per ton, while the American can be furnished at \$50, and has been demonstrated to be far superior as a fertilizer.

The above appears in a late number of the *Weekly News*, without a name to indicate its authorship or inform its readers on what authority, other than the editor's, it goes forth. In copying it we offer our readers the following remarks:

1. The company, which it is said can afford this Guano at \$50 a ton, is an *American Company*. The Islands whence it comes are *American Islands*. The persons who will be employed to bring it to our shores, will be mostly *Americans*. It will be likely to come in *American* shipping. All this is well. The sooner American citizens, native and adopted, furnish our necessities and perform our labor, the better will it be for us all. We should like to ride on a railroad constructed of American iron, smelted with American coal, by American hands. When we stop over night, we should like to sleep under American blankets; and if we take a lunch by the way, we should really a little prefer that the wheat of which our bread is made should have been grown with an American fertilizer. We are all over American; we would eat, drink, wear, sleep on, ride over, have, hold and use American goods, if we could get them, in preference to any other; and we really wish that our farmers would purchase this American guano in preference to Peruvian, just as soon as they can ascertain its intrinsic worth and find it offered at or within that figure.



2. Somebody, in the article above copied, states that Peruvian guano is now held at \$70 a ton. We suppose that is so. And we suppose that fancy farmers, who have amassed a fortune in speculating on the labor of the working farmer, can afford to pay that price, or perhaps almost any other. If market-gardeners, nursery-men, fruit-growers, and some others, say that they can afford to pay \$70 a ton for Peruvian guano out of the results of their business, we have no controversy with them. They probably understand that matter better than we do. But we are bound to say, and to give our readers the benefit of our opinion, if it shall prove beneficial, that the general farmer, having no special facilities for making money out of his crops, can hardly afford \$70 a ton for Peruvian guano. It is the best manure yet offered, but is not above all price, may be purchased too dear, and fail to leave the purchaser a fair profit. For most kinds of farming it is vastly better to have recourse to other modes of keeping up fertility, such as ploughing in clover, digging muck, preserving carefully all the home fertilizers, and thus making the farm enrich itself, than to purchase manures at \$70 or even at \$60 a ton. We are no prophet, nor a prophet's son, but we do not believe that the time is far distant when \$50 a ton will be found quite as much as is profitable for the general run of farmers to pay for any, even the best, manures; and if we were practicing to live by farming, we should certainly take a course which, if other farmers would go with us, would soon bring the Peruvian government to be willing to sell their guano, of which they unquestionably have an immense supply, at that price, or less. That there are individual cases where purchasers have done well at a much higher price, is unquestionable; but there are ten times more cases where a loss has accrued from its purchase at that price; and since the fortunate holders of the Chincha Islands can very well afford to sell so as to give the purchaser a good bargain, we really wish they may be starved to it. Fifty dollars a ton is enough for them to receive, and it is enough for us to give.

3. Somebody in this same article, says that the American guano can be furnished at \$50. There must be some mistake in this if the writer means by it that it can not be sold at less. We have heard the president of the company say that it can be afforded at \$40, and leave room for a very large profit. This may mean one hundred per cent. on the capital invested. If so, it can be afforded from 40 all the way down to 20 dollars a ton, according to its real worth, when that point shall be settled. We would here say that the company have done a very fair and honorable thing, in giving out considerable quantities of this guano to farmers that it may be subjected to a fair trial. We have been of opinion that no phosphatic guano, as the analysis shows this to be, is worth fifty dollars a ton, nor forty; but we sincerely hope that this

may prove all that is claimed for it, better even than Peruvian. The discoverers have done a good thing for the country, should it prove valuable, and we hope their enterprise may be rewarded; but as commerce is in no respect a higher or more important calling than agriculture, and as merchants have evinced in all ages quite as much competency as farmers to take care of themselves, we feel justified while calling upon the latter to be *American* in their feelings, to patronize an American guano company heartily, as fast as they can do so without compromising their own interests, in reminding them also to be cautious, to know the real value of the article before they purchase, and then to purchase only as liberally as they can afford. And if they remember that commerce steals a march upon agriculture ten times oftener than agriculture upon commerce, we have no sort of objection.

—Ed.

FOR THE AMERICAN FARMERS' MAGAZINE.

### Saving Seed Corn.

FRIENDS NASH & PARISH:—Your *Plough* is an excellent implement, and works well in turning over the *sod*, and on old ground that has been worked for years. But good tools are not all that the thrifty husbandman wants to insure him good crops—those that will pay him for his expense and labor. He may have the best of *Ploughs*, *hoes*, etc., and put his ground in the best of order, but unless he has good seed he can not expect a good crop.

During the spring of 1856, the seed corn in this part of the country proved almost a perfect failure, especially the first planting, as most who planted early had to replant. This, with early frosts, made a large quantity of poor or soft corn. No one could give the reason for it. At the time I talked with many of my neighbors upon the subject, and I found that nearly all of them planted the corn that they had cut up and put into stouts. The corn crop proved a poor one. Hardly a farmer had enough for his own use. This caused the price of corn to rise from the usual price (thirty cents) to \$2 per bushel, and it could not be had at that, for it was not in the country.

Last spring came around, and many of the farmers did the same as on the previous one. Corn that stood out all winter in the hill came up finely, while that which was cut and stouted up or put into bins proved a universal failure. Therefore, the crop of corn will be nothing like a full one this season. The season was cold and very late; and where the seed failed the first planting, if frost comes as early as common, the second planting will be cut off. My reasons for corn not growing that is cut and stouted up or put in large bins, are the same as friend Bacon's, given in the July number of the *Plough, Loom, and Anvil*, on page 20.

As the seed had proven such a failure in the spring of 1856, I thought that I would try a new mode of saving my *seed corn*, if any grew; as my seed was old corn sent to me by a friend from Ohio, it nearly all grew, the first planting. In the latter part of September, when my corn was fairly out of the milk, and was glazed, I went and selected the best of it, picked it and strung it up under my shed upon poles, so that the air had a free circulation. It hung there until it was nearly dry, I then put it up in the chamber where a stove pipe went through, and it remained there until spring.

When it got dry, it shriveled up and looked as if it had no substance in it. I thought it was uncertain whether it would grow. Before planting I put some into the ground to see if it would germinate, and it came up. I planted it into the field; and while planting one of my neighbors was there, and he looked at it and laughed at me for being so foolish as to plant such corn this late season. "Why," says he, "if that corn grows, there is no danger but what all corn will grow. If that grows mine will grow, surely." His corn had been cut up and stood in the stout until cold weather came, then it was picked and put into a crib. But did his all grow? He planted it, and about one-half of it came, while the corn that I had in the chamber grew to a kernel. Even if the kernel was shrunk, the germination principle was not killed. This proves to me that corn for seed should be gathered as soon as the milk is out of it and it is fairly glazed over. An old farmer, who has seen seventy summers, said to me once: "If you want to have your seed corn come up well, save your seed before your corn is fairly ripe." My advice to all farmers that have had bad luck in having corn fail is, save your corn before it is fairly ripe, and put it where it will cure, and keep it dry until you want to plant it. Millions of dollars have been lost during the last crop of corn, and there will be dollars lost this fall, for no other reason than by planting poor seed. Messrs. Editors, I hope that you will give your opinion upon this subject, for it is of vast importance. I hope your correspondents will write, and if they have not tried it, may they do so and give their experience through the *Plough, Loom, and Anvil*.

Respectfully yours,

L. S. SPENCER.

LYNN, Warren Co., Iowa.

We would prefer to select seed as soon as fairly ripe, but would be careful not to do it sooner; and would then keep it in a dry and cool place, though it would not be seriously injured by wintering in a heated room, as all experience shows, many farmers always keeping it suspended over the kitchen fire.—ED.



**Farm Life.**

"Oh, friendly to the best pursuits of man,  
 Friendly to the thought, to virtue, and to peace,  
 Domestic life, in rural pleasure passed!  
 Few know thy value and few taste thy sweets;  
 Though many boast thy favors, and affect  
 To understand and choose thee for their own."—[COWPER.

EDUCATION is by no means confined to schools. These are but rudimental and auxiliary to that training which is begun in the cradle and finished only at death. The nursery days of our life, and its business pursuits, have an important bearing upon the formation of character. What a man does, as well as what he studies in books, educates him. The scenes amid which his boyhood is passed, out of schools, the objects which occupy his thoughts, the problems he daily solves in earning his bread, quite as much shape character as the scenes and problems of a school-room. Agriculture is the largest and most important of all our material interests, the occupation to which the largest portion of our countrymen are born. It is a matter of interest to consider the bearing of this pursuit upon the characters of those who are engaged in it.

There are those who consider this a menial occupation—degrading to the body by the toil it imposes, and belittling to the mind by the attention it requires to the minute details of its business. They regard its implements as the badges of servility, and look with disdain upon the plow-boy's lot. They depreciate the influence of farm life upon the social and mental culture, and look upon the rustic man as a type of boorishness and ignorance. They think it mainly a business for brute muscles, where mind can achieve no conquests, and where skillful labor finds a poor reward. They think the way of a man of genius is inevitably hedged up upon the farm—that there is no heroic work to be performed, no laurels to be won. If he would do deeds worthy of his manhood, gain wealth, gain honor, make himself a name that will live, he must turn to nobler occupations.

If those who are strangers to the farm alone cherished this view, we could abide it in silence. But when farmers themselves admit this impeachment of their calling, and the pestilence of this heresy finds its way to our firesides, and makes our sons and daughters discontented with our rural homes, it is time to speak out. If comparisons must be made, which are invidious, the shadows shall not fall on the farmer's lot. It is time that other callings were stripped of that romance in which they are veiled, and that the sons of the farm should know what they have in prospect when they turn their backs upon the homes of their youth. It is meet that they should better understand the blessings of their lot, its capacities for improvement, and its superiority to all other occupations. We would arrest that feeling of disquiet which keeps so large a part of our rural population perpetually longing for new fields of enterprise. We would have them settled, at least a portion of them, in the old parish, and bend all their energies to the improvement and adornment of their homes.—*Rev. William Clift.*

### Notes by the Way.

ON the New-York and Erie and the Lake Shore roads, between this city and the State line, a distance of about 500 miles, there is some rather poor land, considerable that is but ordinarily good, and a great deal that is excellent, so good that it would be difficult to find much better, consisting of fertile valleys and beautiful slopes, with hill-tops and broad table lands hardly inferior to either.

Why is it that farmers on the inferior lands are doing better, as compared with what one might expect, than those on the best? If the fact is admitted, and we rather think it must be, how shall we account for it? Have those on the best lands set too high an estimate upon ease? As nature does more for them, have they concluded to do less for themselves? And does it require a rather hard soil to make your real energetic, go-ahead farmers? We throw out these inquiries for others to answer, hoping it can be shown that the energy and enterprise of the farmer are not to deteriorate with the goodness of the soil.

At Ripley, the last town in this State, on the Lake Shore road, we found a gentleman—we do not mean in any miserable, technical sense, as if a gentleman and a working farmer can not be the same, for we found him with his coat off, hard at work—who is cultivating a large farm, and is destined we believe to distinguish himself as a breeder of fine stock, H. J. Cowden. Mr. Cowden's herd consists of thirty head of Durhams, pure bloods, we think he said, without exception, or at any rate with few exceptions. He has made a fine beginning, and will hardly fail of advancing his own interest, as he certainly will that of the country. Among Mr. C.'s stock, not to mention others, is the famous bull Ivanhoe, from the imported bull, Harold 2d, 1688 Allen's Herd Book.

In this same town of Ripley, we accepted an invitation to dine with Mr. Loren Shattuck, a good substantial farmer, whose lady seemed at first rather disinclined towards the New-York *corps editorial*, on account of Mr. Greeley's criticisms on the cooking of farmers' wives. If loud laughing makes a good dinner, we certainly had it; and if it does not, we had it; for in the first place there was the staff of life, and a good staff it was; we never ate such bread in New-York; Mr. Greeley never did and probably never will. It was made of wheat grown on the farm, made at home, made just right, was white as snow, porous without large cavities, tender, moist, perfect; would have taken the premium at any fair in the Union. We ate just such at a neighboring hotel, but have not seen quite as good elsewhere. The butter was good also; and where there is such bread and butter there can not be

very poor living. The meat was good enough, and the pies were first-rate, and the good woman concluded to forgive Mr. Greeley after all, on the ground that there is some bad cooking in farmers' families, and that his strictures were on the whole adapted to abate the evil. The fact is, we interceded for Mr. Greeley as eloquently as we could, having some fear lest so many women as he had offended on the score of cooking might possibly cook up a plan to overthrow the *New-York Tribune*. We hope the editor of that journal will remember us if we should ever get into a like trouble with the ladies.

John D. Patterson, of Westfield, has such a flock of French Marinos as we have nowhere seen before; 300 in number, bred from the choicest importations, and certainly with eminent success. We understood Mr. P. that it is not his intention to enlarge his flock, but to use every possible exertion to improve the quality. It has been his object to combine size of body with fineness and quantity of fleece. He does not claim that the quality of his wool is equal to that of the Saxony sheep, but that it is good, and that the quantity is large, and that the sheep are large and hardy. His shepherd told us that he recently sold two lambs of eleven months old, the weights of which (live weight, of course) were 185 and 197 lbs. Two lambs of nine months old were shown us, the weights of which were not known; but such was their size, that after seeing them we could the more readily believe the report of the others. Several bucks, we understand, have been sold from this flock for \$1000 each, and many ewes for \$250 each. So we were assured; and we were informed by persons who ought to know, that Mr. Patterson is the last man to be suspected of reporting fictitious prices for the purpose of affecting future sales. These prices are too high to be thought of for the ordinary purposes of farming; and yet we rejoice in such improvements, believing that the benefits will ere long pass round, and that the whole country will participate in them.

Mr. Elam C. Bliss, of Westfield also, showed us a lot of very beautiful young Devon cattle, and stated that a few months ago he sold a calf previous to its birth for \$100, all risks with the purchaser; and that the purchaser is now exceedingly pleased with his bargain.

We name such facts as indicative of a spirit of improvement, which we are pleased to see, and not because we suppose it would be advisable for all farmers to pay fabulous prices for fine stock. Call these high breeders fancy men, if you please, but there is some evidence that they know what they are about; call those who purchase of them by what epithet you choose, but some of them at least will be likely to take care of themselves; and the advantages of high-bred stock will pass around till all will become participants. We forgot to mention in the proper place, that some fifteen months ago Mr. Bliss, of whose



Devon calf, sold quite as early as some of our veal here in New-York is eaten for \$100, paid \$1500 for a Jack, which now promises to be a good investment, both for him and for Chataugue county; and that one of Mr. Patterson's bucks is the same which drew a high premium (the highest we think) at the world's fair in Paris. The name we have forgotten, and of the price we only recollect that it was enormous; but we understood Mr. P. that he would not wish now to retrace the measure of the importation if he could.

Other observations between the western and the eastern extremities of New-York we would like to detail, but feel compelled to omit. On one thing, however, we will dwell a little, even at the risk of wearying our readers. It is the vineyard of the Messrs. Fay, father and son, at Salem Cross Roads, in the town of Portland, Chataugue Co. Forty-six years ago the elder Mr. Fay removed from Worcester county, Mass., and settled in this county, then entirely new. Mr. Fay is an excellent farmer, as the land, which he took in its then primeval state, and has ever since carried on, with the aid of sons and a grandson, fully attests. The old orchard, planted with seeds he carried from Massachusetts, is to-day one of the freshest and most flourishing in the country. The trees at first were but seedlings. The trees are now ingrafted, and most of them are abundantly productive of choice fruit.

On one part of Mr. Fay's farm, is a water meadow of twenty acres, the finest by far we have seen in this country. The crop, which was being taken from it at the time of our visit, could be hardly less than three tons to the acre, and as good hay as ever was cut. The practice, we believe, is to mow it but once, though we are not positive on this point. For twelve years it has been under the watering process, no manure having been used all that time, and we were told that the crops were good from the first, but have been steadily increasing, the present crop being probably a little better than any other. On a future occasion we may say more of this meadow, and give directions for producing the like; for though it must be confessed that few farms afford such an opportunity for inexpensive and yet effective irrigation as this, yet there are many on which the same process might be applied in a less extent. Think of the value of twenty acres, or even half that extent, or a quarter, producing three tons of first-rate hay to the acre, without a particle of manure, and then furnishing manure for other portions of the farm, and you will have some idea of the value of irrigation, where the position of the land admits, as in this case, of a cheap application.

But it was our present purpose to speak of the vineyard. The elder Mr. Fay and his son, and Mr. Bykman, a grandson of the

former, have together five acres of vineyard. We have not space for particulars. Suffice it to say, that some of their vines are seven years old, others six, five, and so on down; and that their plan has been from the beginning not to remit known and profitable crops, but to add the culture of grapes to these, so that in case of failure in the new branch of business, their success in the old would not be much interfered with. This has ever seemed to us a wise course, in relation to new undertakings by the farmer. There is a plot, for instance, which might produce more income, if set with cranberries, than all the rest of the farm. But there is some uncertainty. The farmer fears to let go his hold of the old and sure crops for what is doubtful. In this he is right. But can he not experiment on what gives some sort of promise of being more profitable, without letting go what is better known and more sure? It has seemed to us that the true policy is for the farmer to adhere closely to some one or two branches of farming, well known to him and suited to his land, as dairying, stock-growing, the cultivation of the cereals and others; to make this or these his main dependence, but to try his hand at the same time at other branches so cautiously as not essentially to interfere with the main business. This is just what the Messrs. Fay have done. Without neglecting other, and perhaps more sure employment of their land, they have produced five acres of beautiful vineyard, and are going on to enlarge it by little and little from one year to another. Now if the vineyard should wholly fail, they will not be ruined by it. If, on the other hand, it should produce half as well as it now promises, there is wealth in it; and it would now seem hardly possible that they will fail of a rich reward for the labor bestowed upon it. Very much like this is the case of a farmer whom we have known in another part of the country. There was a plot on his farm well adapted to the culture of the cranberry. He was not certain of success; and not being wealthy, and having an expensive family, he would not have dared to grow a bushel less of corn and other grains, but could make an experiment at the cranberry business at intervals which could be spared from the other crops. He did so, and the result has been that for the last ten years the cranberry has had yielded him more net income than all the rest of his farm, and he is now wealthy. Two years ago this farmer said to us, "If I had bent all my force to the cranberry culture when I began, fifteen years ago, I should have been rich now;" and he ended by saying, "what a fool I was." We replied, that he had taken a profoundly wise course; because he had felt his way safely, without imperilling his creditors, (for fifteen years ago he was deeply in debt,) and without subjecting his family to a doubtful support. Such was the literal truth; for although the cranberry culture turned out the most profitable investment, yet he could

not have known that beforehand; and he was wise to hold on upon the corn and the broom corn, the oats, peas, beans and clover, till assured by actual results that he had hold of something better. And then he was rich enough as it was; a good farm, under high cultivation, well stocked, all paid for, a few thousands beforehand, frugal habits, a family frugal, sensible, intelligent, healthy; is there a richer man in the world? If any, let him speak, for we want to go and see him—would go farther to see a richer man than that, than to see all the sights about, from Dan Rice's circus to Christy's Minstrels, now attracting cockneys and fools in "famous London Town."

We want to say more of farming on the Erie Road, but have not space. Our moral is, if the farmers in that southern line of counties will bear with us, that they are not doing quite as well, comparatively, as farmers farther east, on poorer land. Too many of them are dreaming of a better country West. The truth is, their country is good enough. Its situation on the line of one of the greatest thoroughfares in the world, makes it doubly desirable. Whether the New-York and Erie Road is managed well for the stockholders, is more than we know. That it is well conducted for the traveling community, we have abundant reason to know; and that it is of immense value to the farmers along the route, present prices as compared with former, two, three, and four times as much, sufficiently attest. If the farmers of Western Pennsylvania and Southern New-York had paid for the whole road, and were never to get a cent of dividend, they would still be gainers, by the rise of their produce and land. Immense extents are to-day worth ten, twenty and thirty dollars an acre more than they would have been worth for half a century to come without the road. In view of such facts, we shall venture to question whether the people of these regions are actuated by quite as liberal a spirit towards the road as becomes them. We think we have seen some evidence within the last five weeks that they are not.—Ed.

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FOR THE AMERICAN FARMERS' MAGAZINE.

### **The Season, Crops, Harvest, etc.**

NEWMAN'S MILLS, Indiana Co., Pa., Aug. 1, 1857.

MESSRS. EDITORS:—Last winter was a remarkable one. It was very cold and wintry, with deep snow till Tuesday, the third day of February, when it began to be a little milder. On the fourth of February it set in warm and rainy; and the snow nearly all went off. It was quite warm and spring-like. Some part of February was so warm and free from snow, and even frost, that the grain and grass



began to start to grow as they ordinarily do in April. This kind of weather lasted till the beginning of March. After that the weather was variable till the 23d of March, on the morning of which we had lightning, heavy thunder, and abundant rain. From that time, on through April and May, the weather was cold, windy, and backward, not half so spring-like as in February.

We had morning frosts till the 6th of June. There was but little corn planted till after the 25th of May. Oats were sowed nearly a month later than usual. On Monday, the 8th of June, it rained heavily in the forenoon, and washed the fields and roads considerably. But that night the rain fell in torrents. Next morning, such washed and gullied looking corn fields, oat fields, and roads! And since that time we have had only seventeen days till the first day of August, during which it has rained more or less, at times powerfully, viz.: June 14, 19, 21, 23, 24, 25, 26, 27 and 28, and July 3, 4, 7, 8, 14, 17, 24 and 25. Nearly all of the rains have come from the east or south-east.

Old grain is very scarce and prices high; in fact hard to be had at any price. The new wheat and rye are good. Many fields are heavy. A neighbor of mine has a field of wheat of ten acres, which I hear he rates at thirty bushels the acre. Others reckon on twenty bushels the acre. There was a large breadth sown last fall to wheat, and most of it on land newly cleared, as last season was a good one for clearing land. The oats were sown very late, but they give promise, at present, of a large yield, and corn looks tolerably well, or would if it were the first of July instead of August first. I fear the frosts, if at all early, will find it not ready to bear their cold touch unharmed.

Potatoes, as many as were planted, look well, and there are yet no signs of rot, so far as I know. So many potatoes were frozen last year, and seed was so scarce, that not very many were planted about here. As it rains almost daily, and some days almost all day and night, harvest is progressing very slowly and unsatisfactorily. There is a poor prospect of much new land being cleared this season in time for wheat next fall. There is so much rain, the timber will not burn without great labor and pains-taking.

I esteem your Magazine of Agriculture very highly, and would most heartily recommend it to all cultivators of the soil everywhere, as a safe guide for them. I think it grows better, like wine, as it grows older. I am right glad to see in it such articles as "Multum in Parvo," "Chemistry for the Million," "Health, Morals, and Patriotism," and such like.

Yours truly,

DAVID MILLS.

## Horticultural.

### Blanching of Celery in Trenches.

THERE are two modes of blanching: one is to draw the earth up to the plants from time to time while they are growing; the other is to defer the earthing until the plants are nearly full grown. We prefer the first method. Success in cultivating celery depends mostly on inducing a rapid growth; and to insure this, an abundant supply of manure and frequent stirring of the soil are indispensable. Watering with liquid manure is very beneficial. The hoe should be used as soon as the plants have fairly begun to grow, and the ground kept loose and free from weeds. The plants will be greatly benefited by stirring the soil immediately after a rain. As soon as rapid growth has become established, or when the plants are about a foot high, the process of earthing may be begun. As the leaves and stalks grow in a spreading manner, it is necessary, in the first place, to collect the stalks in one hand, and with the other draw up some earth and press it against the plant just hard enough to keep the stalks together. The hoe may then be used to complete the process, but the crown or heart of the plant must not be covered until the blanching is finished late in the fall. The earthing must be repeated from time to time as the plants progress in growth, and it should be done during dry weather, since, if the earth is wet, the celery is apt to become "rustled." In our next number we shall give directions as to the best mode of keeping celery during the winter.

### Ripening of Fruits.

THE ripening is a process as little understood as the period of picking, and various directions have been given on this subject by different writers, some advising it to be spread out upon shelves in the fruit room, and others to be kept in boxes or drawers, excluded from the light and air. We have found that very few early pears will ripen well when exposed to the air on open shelves, even in a tolerably close fruit room. At this season of the year the atmosphere is too dry, and the currents of the air too great, and the juices are too rapidly exhausted. It is far better to place the fruit in boxes of moderate size, and let them stand in the fruit room or some other cool and rather dark place, where they retain their juices better than if exposed on shelves. We have tried this experiment, and found that those fruits kept in small quantities in a drawer, shut out from the light, were more juicy, higher flavored, and more delicious than when preserved in other ways. As a general rule, we should advise all early pears to be placed in boxes or drawers, covered with one or two thicknesses of paper, and kept excluded from light and air, where the temperature is cool and as even as possible at that season. A damp, cool cellar is not so favorable a place as a cool, dry room, as the former checks the ripening process too suddenly; such a situation will do for the autumn and winter pears, but not for the early kinds.

Apples, being less dependent for their excellence on their delicacy of flavor, than for their tenderness, juiciness, etc., need only be gathered a few days before eating; they are better placed in baskets or barrels, in moderate quantity, than to be spread out on shelves. Some of these are about as good when they fall from the tree as by any process of keeping. The Red Astrachan, Porter, and some of the more acid kind, seem to acquire their highest flavor in this way. But as a general rule they should be gathered a few days before eating. The sweet varieties, particularly such as the Bough, Golden Sweet, and some others, become mealy if allowed to hang too long.

Peaches and Plums, except clingstones and prunes, are only fit to eat as they drop from the tree. The only objection to this mode of gathering, is, that it bruises and disfigures the fruit. They should not, however, be picked unless they part from the stem upon the least touch. Clingstones and prunes may be kept in the fruit room for one or more months.

### Transplanting Strawberries.

THE best time is always early in spring, as at that time, we have only to set out the plants with ordinary care for all to grow. They will bear abundantly the second season, and if kept clean and cultivated, for two or three years afterwards.

Transplanted immediately after bearing, and while the plants are somewhat exhausted, and consequently in a partially dormant state, strawberries will do well, and afford as good a crop next season, as by spring transplanting, but more care and labor are required. The ground is first to be prepared by properly enriching it, and making it clean and mellow.

The plants should be selected from the youngest well-rooted runners of the previous year. They should be lifted out with a spade, and the earth shaken off, and not pulled out, as is often done to the injury of the roots. All the full expanded leaves are to be clipped off, leaving only the small, half-open ones. The roots are then to be dipped in mud, made in a pan or pail for this purpose, thick enough to leave a coating on them about the fourth of an inch. They are then to be transplanted, spreading out the fibres as much as may be convenient, and taking care not to cover the crown.—*Country Gent.*

*Remarks.*—Every family that has a patch of ground should cultivate a bed of strawberries. For more particular directions, see our number, Sept., 1856, page 146.—Ed.

### Soap for Killing Borers in Trees.

S. S. GREEN, of East Cambridge, has made an experiment with this article. He has in his garden a white ash tree, which was full of these worms, so fatal to our fruit and ornamental trees. He covered every place on the tree which appeared to be wounded by them, with common hard soap, nicely rubbed into the place where the borer seemed to have entered. During the rains of this week, the soap dissolved and penetrated to the worms, which forced them out by scores, causing their death.—*Exchange.*



## MECHANICS' GUIDE.

Recent American Inventions.



Reaping and Mowing Machine.

We are not quite sure that the machine described below has not acquired a foreign reputation far greater than it has achieved as yet in this country. Our readers are aware that a great trial of reapers and mowers has been recently made in England, in which our own inventors have again carried off the palm. We have now before us the *Mark Lane Express* and *The Salisbury and Winchester Journal*, and both speak in unqualified praise of the "Eagle" Mower and

Reaper. The latter paper says that English makers have nothing to fear "with the exception of the American Eagle." So far as we can judge, this was the only American Reaper that competed for the prize. The *Mark Lane Express* says: "It professes to cut grain or grass at all heights, and on any kind of ground, however rough and trying. It is only right to say that its performance so far approaches its promise." We make these extracts in the hope that our own agriculturalists will be careful not to neglect anything worthy of their attention, and that our inventors may see a practical proof that the world is their legitimate field, and that they have good reason for expecting entire fairness in the trials made even beyond sea of the comparative merits of their inventions. We only add that this invention received the premium of a thousand dollars from the Massachusetts Society in 1856. Its cost is \$125, and is now manufactured by Messrs. Nourse, Mason & Co., of Boston.

The proprietors are interested in the manufacture and sale of Heath's Combined Mower and Reaper, manufacturing it only as a combined machine. Some of the superior merits of this Machine are set forth under the following heads:

1. The machine has no gear. The main or driving wheel, on which it moves, has two cams in its face or rim; low down, near the ground, is a friction roller, between the cams; this friction roller revolves on a pin which is attached to the vibrating bar. The vibrating bar is below the frame in front of the wheel, and moves between stirrups on the frame. The inner end of the vibrating bar is attached to the cutter bar. As the main wheel revolves, the friction roller is driven backward and forward by the cams or zigzags, imparting motion to the cutter bar.

This main wheel and friction roller constitute the whole driving machinery, and the application of the power being direct to the cutters, very little of the draught is consumed by friction, so that in fact the machine is of very light draught and easily operated by two horses for an entire day, without any necessity of change of team.

2. There are two sets of cutters—an upper and lower set—the upper set vibrating, and the lower ones remaining stationary. The lower cutters project an inch beyond the upper ones, and serve the double purpose of cutter and guard—being each  $\frac{1}{2}$  inch thick and  $\frac{1}{2}$  inch wide. Both upper and lower cutters are made of wrought iron, faced with cast steel; and are equal in quality to the best edge tools in use. The cutters are held together by a spring pressure bar, and each one is held to the bar by a screw bolt, so that in case of accident the injured one can be removed and another substituted in a moment, in the field. It will thus be seen that the grain or grass is cut between two sharp edges, of the best quality of temper—the cutters acting like shears, excepting that one blade is stationary. Hence the ease and certainty of cut, whether the grain or grass be wet or dry, so that it is never necessary to urge the team beyond a natural gait, the machine cutting as well at a moderate as at a high speed.

3. The arrangement for elevating the cutters in passing obstructions, is simple, convenient and effective. In front of the seat, but in no way connected with it, is a platform or foot-board, attached to the back rail of the machine. When cutting through a wet place or slough, or passing other obstructions, the driver rises up and with his right foot throws his weight, or enough of it, upon the foot-board or lever, to instantly raise the cutting apparatus from one to eight inches, as may be desired, without checking the team; and the obstruction passed, he removes his foot from the lever, and the cutters at once drop down and are at work. Again, in turning the corners, it may sometimes be necessary to drive over the cut grain or grass; and in such case, by simply elevating the front part, the machine will pass over the grain or grass with as little inconvenience as a cart.

4. The seat is placed on hickory springs, which fasten to the hounds of the draught pole, just forward of the axle—the draught pole hounds being attached to the frame back of and below the axle. The springs of the seat bear on the

cap of the box, over the axle, which thus becomes a fulcrum for them. By this arrangement, the driver's weight is made to balance the weight of the draught pole—thus relieving the necks of the horses from burden.

5. The end of the machine next to the standing grain or grass is carried on a wheel of about sixteen inches in diameter; and the principal part of the weight being at one side of the draught pole, that counterbalances the greater length and the cutting apparatus of the machine at the other side of the pole—thereby preventing "side draught."

6. By means of the gauge-block attached to the draught pole, the cutters can be set to any desired height.

7. When the machine is stopped in the grain or grass, it can be started ahead at once into its work, without first backing the team.

8. The reel is of essential service when the grain or grass leans from the machine.

Upon a trial instituted by the Indiana State Board of Agriculture, and continued during three days, the Committee awarded the highest prize to Heath's Machine. This Machine has also won the prize at various other trials in the Western States.

### Pratt's Family Sewing Machine.

WE have received many inquiries in reference to a "ten dollar sewing machine," and though we can not yet exhibit the exact thing described, we can come pretty near it. We have intended to give a short history of the progress of art and invention in this direction, and our readers may expect, ere long, a little narrative in this curious department of history. Thus far, however, a well working "ten-dollar" sewing machine has not come under our observation. But we now have some near approximation to it. Hand machines, that do as good work as hand machines can be expected to do, may now be had for twelve dollars, though their power is so much inferior to those moved by the foot, that we can not advise their use. We have just examined with great care the construction and action of one of these cheap machines, which certainly promises very much. We do not perceive why it is not a complete success. We refer to the sewing machine of Mr. S. F. Pratt, of Boston. It has been only some six or seven months before the public, but has begun to acquire a good and wide reputation. Unlike other sewing machines, it stands upon a small table which is supported by a single pedestal, like a "light stand." Its action is also new. In most of the machines in use, the work is moved forward by the revolution of a wheel having a rough or corrugated surface, which carries with it any substance (cloth, etc.,) placed upon it. In this the "feed motion" is secured by the ascent of a corrugated edge, from beneath which confines the cloth against the holder on one side, (the finished side,) while another behind it, like the end of a dull chisel, then coming up and lifting it, secures motion from the other side, the left hand holding and guiding the cloth, then draws straight this loop, and the material is ready for the next movement. Hence the motion of the cloth is not entirely unlike the movement of a canker worm or geometer, and the length of the loop is controlled by the position of this part of the machinery. Two or more thicknesses can thus be managed as well as one, while in some machines the under and upper pieces do not always move with exact uniformity. The upper piece moves more slowly than the lower, and the lining is either looser or tighter than the outside.

Mr. Pratt uses a single thread on the original spool, thus avoiding the labor



of re-winding. The loop or chain is secured by a hook, but the action of that hook is not the same which is in use in some older machines.

Hand machines make about three hundred stitches per minute, while those moved by the foot will make about a thousand. Hence, though the hand machine costs but twelve dollars, and though it can do the work of three or four pair of human hands, the other form is more economical, while it costs \$25 and \$30, because it works so rapidly. Yet, for a small family, having but little work to do, the cheaper one may answer every needful purpose.

The arrangement of the machine can be changed so as to make five stitches to the inch, or forty, at pleasure, by turning a screw, and it will sew woolen, cotton or linen goods, with equal facility. Linen is, however, said to be the severest test of its working ability. It fastens its own thread when it stops, and thus prevents it from raveling.

We think this can not fail to prove a good family machine, and worthy of general attention. Our readers will remember that we have heretofore commended Robinson's as the best of all, because it takes different kinds of stitches, and exactly such stitches as are taken by a seamstress. But its machinery is comparatively complicate, and costs \$100 and upwards. To those of small means, Pratt's machine commends itself both as cheap and capable of as good workmanship as any other of the high cost machines. When the sale becomes general, so that almost every family is accustomed to use them, the cost may be reduced still lower. But with present competition, and the great cost of giving publicity to any such invention by advertisements, agents, etc., probably the present terms are as favorable as can be reasonably expected. Mr. E. A. G. Roulstone, 7 Tremont street, Boston, has the right of this sewing machine, and an agency is established at New-York, 577 Broadway.

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#### **Bradley's Sheep Shearing Machine.**

A SUBSTITUTE for the "sheep shears," so long used in cutting off the fleeces of sheep, has been invented by Mr. R. P. Bradley, of Cuyahoga, O. Its cutters are after the fashion of our mowing machines, consisting of several fingers at the end of the implement, over which other moveable fingers slide. This slide is moved by a handle, and the zigzag motion is given by a zigzag slot, in which a pin, fastened in the slide, is inserted. It is guided by the left hand, and operated by the right. It may prove a very useful invention, but we have not seen it in operation.

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#### **Renovating Worn Apparel.**

To remove grease spots from silks and satins, use fresh ox gall, or pure turpentine, camphene or burning fluid. Camphene is purified turpentine, and burning fluid is a mixture of three parts of alcohol to one of champhene, and is perhaps the best of all these. To remove acid stains, apply an alkali, as ammonia, (hartshorn,) to the spot, very carefully. With some colors, ammonia will produce spots, hence it should be used sparingly, and applied only to the stain. Ink can be removed by being soaked or repeatedly washed in solution of tartaric acid, or oxalic acid, or salts of lemon. Woolen goods may be freed from grease by camphene, or burning fluid or alcohol, repeatedly applied, or

even by soap, applied liberally and well rubbed in. The cloth must afterwards be thoroughly rinsed. Paint can be removed by camphene or burning fluid, repeatedly applied. Grease in a carpet may be removed by the same process, or by covering it with a considerable quantity of magnesia, which will gradually absorb the grease, and at least very much improve the appearance of the carpet. This process may require several days, and perhaps more than one application. Dry French chalk, or powder, upon a grease spot, will also absorb the grease, whatever the material to be cleaned, woolen, silk, etc. It must be applied liberally, remain a day or two, and be thoroughly removed afterwards by a brush. This is on the principle of absorption.

Ox gall may be prepared so as to be useful in this way, for an indefinite time, as follows: Take one pint of gall, boil and skim, divide into two parts. To one, add half an ounce of salt, and to the other, half an ounce of powdered alum, both being heated till everything is dissolved. Pour into separate bottles, and let them stand in a quiet place for six or eight weeks, or till bright. Then pour off the clear portions, and filter both through tissue or blotting paper into one vessel. In this state it will keep unchanged and free from odor.

### Iron vs. Hemp.

CIRCUMSTANCES indicate that, in certain kind of steamers, iron will entirely supersede the use of wood as a building material.

Another use has also been made of it, to a limited extent, in its substitution for hemp, for standing rigging. Careful tests have been made recently, in Liverpool, in which the superiority of iron seemed fully substantiated. These tests had special reference to the comparative strength of wire, and of hempen rope. The following are given as the sizes and materials of the samples subjected to the first experiment, with the results:  $3\frac{1}{4}$  inch galvanized wire rope, broke at 20 tons 15 cwt.;  $3\frac{1}{4}$  inch Manila hemp, ditto, 5 tons 17 cwt.;  $3\frac{1}{4}$  inch Russian hemp, ditto, 4 tons 15 cwt.;  $3\frac{1}{4}$  inch galvanized wire rope, ditto, 16 tons 10 cwt.;  $2\frac{1}{2}$  inch galvanized wire rope, ditto, 8 tons 10 cwt.

How far these results may be counterbalanced in the matter of convenience, it belongs to experience only to decide. The *Liverpool Post* says, in reference to the superior strength of iron as shown in the above experiment:

"But from a table handed to us we perceive that this is not the sole, or indeed we might almost say the greatest, of the advantages it presents. For instance, we observe that wire rope is a fourth less in weight, and not one half the bulk of that made of the hemp of the relative strength and enduring capacity. The advantage of this, especially in beating to windward, needs no comment. Moreover, we are assured the cost is 25 per cent. in favor of wire rope over hemp, estimating weight and saving. Again, wire rigging is much less susceptible than hemp of atmospheric changes, the latter continually stretching. And when, in addition to all these advantages, it is remembered that wire rigging needs no stripping or refitting, as hemp rigging must have every few years, we can not but come to the conclusion that wire rope seems destined, ere many years, greatly to surpass, if it shall not entirely supersede, hemp rope in ships' standing rigging. Already, indeed, we see that for years it has been gradually creeping into more general use; and if the approval of experience can add, as it must, to the value of scientific tests, the use of it will be even more than proportionately rapid, for those who have used it invariably prefer it over hemp.

### Manilla vs. Hemp.

THE experiments in Liverpool referred to as testing the comparative strength of iron and hemp, seem decisive as to the superiority of manilla over hemp, in various respects. It is not only stronger, but cheaper. It is lighter, runs more freely through blocks, and does not require tarring. The *Boston Post* says that the Americans were the first to demonstrate these facts, and also to show the superiority of machine spun over the hand spun fibre.

### Perfect Intonation.

THE *Economist* contains a short article informing us of an attempt to construct an organ capable of the same perfect correctness in all its keys and intervals as the violin, or the human voice. "The experiment," he says, "has been tried in the Enharmonic organ, and we have here a description of the manner in which it has been done." To us the history of that "enharmonic organ" is quite familiar. We were one of three who furnished the means for its ingenious inventor to go to work upon his favorite employment, organ building, although we did not employ him on the structure of that organ. We were not sufficiently impressed with its practicability or with the benefits which would result from it. All musicians know the imperfection common to organs and pianofortes, occasioning the differences between G# and A B, etc. The enharmonic organ has a separate pipe for each sharp and each flat, and ingenious machinery connects the proper series of pipes with the key. Thus the number of pipes is nearly doubled, the key board remaining unchanged. In the use of the instrument, the organist brings into play, by pedals, a different series of pipes, at each change of the key, so that its use requires a thorough knowledge of "Harmony," and not a little tact in promptly noticing and preparing for sudden changes in the character of the harmony. A description of this organ was given a few years since in *Silliman's Journal of Science*, the name of the original inventor being omitted, as is too often the case, while he who furnished the capital carried off the credit of the inventor. The real originator of that organ was a Mr. John Alley, who is still engaged, as we suppose, in the construction of instruments, at Newburyport, Mass. It is chiefly for the sake of connecting his name with this invention that we have written this paragraph. The value of the invention is another matter, about which different persons may not and do not agree, and subsequent generations may reverse the judgment hitherto pronounced on this point. But there is no question that "the enharmonic organ" produces sweeter harmony, especially in certain keys, and that an instrument of given sized pipes, constructed on this plan, produces more sound than does the common organ. The comparative silence which intervenes between the repetition of "the wolf," is unknown in the enharmonic organ, so that we have from its pipes a constant equal, smooth tone, at its loudest pitch. Practice with the enharmonic organ also raises a question of no little importance in the theory of music, viz., Is the seventh a discord? It is found that on this instrument the chord of the seventh produces no "wolf," while other "discords" develop the same phenomena as are produced upon the common organ.



## Ornamental Arts—Daguerreotypes.

IF our readers turn to those numbers of our journal in which we described various articles exhibited in different departments, in the Crystal Palace, of the World's Fair, they will find that we announced the daguerreotypes of MASURY & SILSBEE, of Boston, as decidedly the best. The collection was large, and the contributors numerous, and even some of the latter expressed opinions on this point coinciding with our own. This is not the only case, however, in which we and others have come to results unlike those announced by officials, nor was it the only one in that exhibition. But we refer to this now, because a visit at their establishment in Boston, furnishes us with accumulative evidence on that subject. It seems to us impossible to produce more perfect pictures than are to be found by scores, in their rooms. The photograph and the ambrotype, are also exhibited in the same apartments, in the same excellent style, though we find that the latter are not regarded by these gentlemen as so well worthy of regard as other styles of this beautiful art. They say the pictures are not *artistic*, and in this opinion, we find that they are not alone. But we do not intend to form an issue on this question, with any one. Our present object is only to call attention to this firm, and to invite at least a passing examination of their work. Having once secured attention to this collection, we would have each one to determine for himself the time to be given to it, for we should not doubt the verdict that any one of ordinary judgment would arrive at by himself. Hence, we only say, drop in for a few moments.

## Recent Patents,

[ISSUED FROM THE U. S. PATENT OFFICE, FROM JULY 1 TO JULY 28, 1857.]

## AGRICULTURAL.

Machines for Husking Corn, G. W. Bachman, Clifton Springs, N. Y.—Grain Separator, Amasa Curtis, Lena, Ill.—Corn Harvester, Israel Dodenhoff, Bloomington, Ill.—Cutting Apparatus for Harvesters, Joseph Irwin, Frankfort, O. Spiral cutters in combination with curved cutting fingers.—Machine for Husking Corn, Wm. Emery, Jr., Chester, Ill.—Connecting the Panels of Field Fences, S. F. Jones, Milford, Ind.—Cutting Apparatus for Harvesters, John P. Manny, Rockford, Ill.—Scroll Wheel for Harvesters, C. D. Rogers, Utica, N. Y.—Hay Rake, S. W. Wood, Washington, D. C., assignor to Lewis H. Parsons, New-York.—Cultivating Ploughs, George G. Black, Crossinville, O. A double plough, with two beams, joined at the clevis, and adjustable to different widths.—Harvester, John P. Manny, Rockford, Ill.—Churn, Charles H. Dana, West Lebanon, N. H.—Corn Planter, Alvin Franklin, Genoa Cross Roads, O.—Churn, Silas Hewett, Seneca Falls, N. Y.—Cultivator, Howard Mann, San Francisco, Cal.—Raking Apparatus for Harvesters, John P. Manny, Rockford, Ill.—Draining Machine, A. P. Routt, Somerset, Va.—Cultivator, Henry Schreiner, Jr., Berrysburg, Pa.—Machine for Planting Potatoes, Gatusha J. Bundy, Lyndon, Vt.—Rotating Harrow, James B. Glascock, Fancy Creek, Ill.—Corn Harvester, G. D. Haworth, Mechanicsburg, Ill.—Shovel Handle, George C. Howard, Hardwich, Mass.—Corn Planter, Norman A. Lewis, Glenn's Falls, N. Y.—Garden Hoe, Solomon Shutter, Alleghany, Pa.—Cotton and Cane Cultivator, T. E. Shannon, Woodville, Miss. A series or gang of cultivators in combination with a wheel carriage.—Straw-cutters, J. L. Sullivan, Lexington, N. C. Two sets of knives, rotating at right angles to each other.—Grain Separator, Wm. Zimmerman, Quincy, Ill.—Machine for digging potatoes, Joseph Heulings, Philadelphia, Pa.,

assignor to W. H. Lawson, B. M. Heulings and Joseph Heulings, of do.—Cleaning Rice, Philip R. Lachicotte and T. B. Bowman, Charleston, S. C.—Guard Fingers for Harvesters, A. R. Reese, Phillipsburg, N. J.—Corn Planter, Charles Schnepf, Lancaster, Pa. Semi-circular scooping hoes, with jointed ends, in combination with slides, and operated by revolving levers.—Cultivator, Harrison Ogborn, Greensfork, Ind., and George Taylor, Richmond, Ind., assignors to Harrison Ogborn.—Machine for trimming hedges, William Wimmer, Billingsville, Ind.

#### METALLURGY.

Metal Separator, Edward Borlase, Bristol, Conn.—Machine for tapping nuts, A. B. Glover, Birmingham, Conn.—Wrench, J. H. Hathway, Millbury, Mass.—Lock, Henry Isham, New-Britain, Conn.—Goldwasher and Amalgamator, T. V. Tavnav, San Francisco, Cal.—Bit or Drill Holder, Amos J. Smith, assignor to himself and George W. Otis, Lynn, Mass.—File Cutting Machine, Wm. Van Arden, Poughkeepsie, N. Y.—Machine for gaging and filing saws, Emanuel Andrews, Elmira, N. Y.—Nail Plate Holder, Wm. H. Battell, Newcastle, Pa.—Coal Tar in iron furnaces, Isaac F. Johnson, Spuyten Duyvil.—Lock, L. F. Munger, Le Roy, N. Y.—Machine for cutting metal, James Tetlow, Salem, Mass.—Centering Machine, E. J. Whiton, West Stafford, Conn.—Lock, Wm. Whiting, Roxbury, Mass., and Henry Pickford, Boston, Mass.—Hand Wrench, G. Philips, Albany, N. Y.—Locking Cylindrical Door Bolt, C. G. Page, Washington, D. C.—Tempering Scythes, C. P. Crossman, Warren, Mass.—Shell Roller, bed for planing machines, Geo. Darby and James E. Young, Augusta, Me.—Seaming Sheet Metal Roof, Lucian Fay, Cincinnati, O.—Punching and Shaping Metals, George Hazeltine, Washington, D. C.

#### FIBROUS AND TEXTILE FABRICS.

Pasteboard Cutter, D. Burhaus, Burlington, Iowa. Of two cutters, each cuts half way through, and avoids the rough edge of former machines.—Cutting button-holes, Wm. Chicken, Boston.—Sewing Machine, E. T. Lathbury, Buffalo, N. Y.—Mattresses, Wm. P. Ford, Cheneyville, La.—Rope Machine, Ezekiel Guile, St. Louis, Mo.—Hemp Drawing Machine, Samuel Loundes, Brooklyn, N. Y.—Cotton Gins, Daniel Pratt, Prattville, Ala.—Machine for cleaning cotton, L. S. Chichester, assignor to Henry G. Evans, New-York.—Sewing Machine, Abram Bartholf, New-York.—Machine for manufacturing felt cloth, Thomas B. Butler, Norwalk, Conn.—Tension Apparatus for Sewing Machines, Abraham Hoagland, Jersey City, N. J.—Treating Paper Staff, J. A. Roth, Philadelphia.—Hemp Brakes, Stephen Stafford, Carrol Co., Mo.—Stuffing horse collars, J. C. Tobias, Lincoln, Ill.—Fastenings for carpets, Washington H. Penrose, Philadelphia.—Crane, R. E. Schroeder, Rochester, N. Y.

#### CHEMICAL PROCESS.

Alcohol Blow Pipe, Edward Conway, Dayton, O.—Making acid bi-sulphite of lime, Laurent Gamotis and Sabin Martin, New-Orleans, La.—Retort Covers, J. R. Floyd, assignor to T. C. Kibbe, New-York.

#### CALORIFICS.

Cooking Stove, Wm. Resor, Cincinnati, O.—Air-Heating Stove, Charles B. Sawyer, Fitchburg, Mass.—Gas Stove, Patrick Mihan, assignor to Robert B. Fitts, Boston, Mass.—Same, Thomas Watters, Boston.—Bagasse Furnace, Geo. M. Lingacre, New-Orleans, La.—Railroad Car Stove, James Spear, Philadelphia.

#### STEAM AND GAS ENGINES.

Packing of Pistons, George H. Hoagland, Port Jervis, N. Y.—Governor of Steam Engines, etc., A. F. Ward, Louisville, Ky.—Spark Arrester, Henry H. Graham, Paterson, N. J.—Same, J. F. Page, assignor to himself and Jas. Landy, Philadelphia.—Governor for Engines, Frederick W. Howe, Newark, N. J.—Spark Arrester, Ethelred May, Boston.—Valves and passages to the cylinders of steam engines, John A. Reed, Jersey City, N. J.—Oscillating steam engines, John Wallace, Pittsburgh, Pa.—Governor, Nathan Scholfield, Norwich, Conn.

—Rendering joints steam-tight, Wm. S. Gale, assignor to Peter Poillon, New-York.—Regulating the fire of coal burning locomotives, John M. Hartnett, Waukegan, Ill.

## NAVIGATION AND MARITIME IMPLEMENTS.

Steering Apparatus, D. H. Chamberlain, W. Roxbury, Mass.—Rigging of ships, James E. Cole, Brooklyn, N. Y.—Marine Canal, Thomas Bell, New-York.—Stopping Shot-holes in vessels, John Woodville, Chillicothe, O.—Raising sunken vessels, John Ponton, New-York.

## CIVIL ENGINEERING AND ARCHITECTURE.

Truss Bridge, Josiah Brown, Jr., Buffalo, N. Y.—Box Window-frame, J. B. Dodge, St. Louis, Mo.—Sash Lock, Marcus P. Norton, Troy, N. Y.—Segmental Truss, for Bridges, etc., Geo. S. Avery, Lewisboro', N. Y.—Pendulum Level, Calvin Cole, Tarrytown, N. Y.—Mastic Roofing Composition, Samuel K. Lighter and James A. Morrell, Hamilton, O.—Spindle for door knobs, Orrin Newton, Pittsburgh, Pa.—Gate Latch, A. E. Morgan, assignor to himself, David Todd, and H. Waddle, Poughkeepsie, N. Y.—Sash Fastener, F. Tarbell, assignor to himself and D. C. Bicknell, Boston.—Roofing Composition, J. B. Wands, Chicago, Ill.

## LAND CONVEYANCE.

Upsetting Tires, Rockwell Hazen and Volney Gibbs, Homer, Mich.—Whiffletree, David A. Smith, Washington, D. C.—Applying railroad car brakes, Ira J. Webber, Salem, Mass.—Machine for making railroad chairs, Robert Arthur, Richmond, Va.—Fly Wheel to Hand Cars, Charles T. Kipp and John Lawrenson, New-York.—Seal for car doors, etc., D. W. Long, Baltimore, Md.—Freight Cars, Henry D. Mears and Wm. Houlton, Jr., Baltimore, Md. (Two patents,) covering the seal and the manner of defending it from accidental or designed injury.—Carriage, Rufus Nutting, Randolph, Vt.—Car Seats, B. J. Lamothe, New-York.—Railroad Car Coupling, Wellington Prosser, Kendall, N. Y.

## HYDRAULICS AND PNEUMATICS.

Air chamber for water-pipes, Thomas Clark, Philadelphia.—Pump, Henry Pease, assignor to Eckler, Baswell & Co., Brockport, N. Y.—Pump, Birdsill Holly, assignor to Silsby, Mynders & Shoemaker, Seneca Falls, N. Y.—Governor for wind-mills, etc., Ethan Allen, Worcester, Mass.

## MECHANICAL POWERS. ●

Lifting Jack, Heber G. Seekins and Charles H. Goss, Elyria, O.

## GRINDING MILLS, AND MILL GEARING.

Shaft Coupling, Edwin F. Schoenberger, Germantown, Pa.—Belt shifter for machinery, L. J. Knowles, Warren, Mass.

## LUMBER, AND TOOLS AND MACHINES FOR PREPARING IT.

Device for securing the stock to the guide-rods of joiner's planes, Stephen Going, New-York.—Straightening Veneers, J. H. Goodell, Bridgeport, Conn.—Operating radical cutters in lathes for beaded work, Geo. W. Walton and Henry Edgerton, Wilmington, Del.—Bit Brace, Henry W. Porter, Rothsville, Pa.—Automatic Lathe, Alexander Edmonds, Mt. Pulaski, Ill.—Mortise Boring Machine, Hiram E. Paine, Troy, N. Y.—Adjusting Tenon Cutters, Melyn Weatherington, Springfield, O.—Cutting Tenons, W. H. Harrison, Philadelphia. The use of two circular saws, whose planes are at an acute angle to each other on the same shaft.—Sawing-Mill, Wm. M. Ferry, Jr., Ferrysburg, Mich.—Feed rollers of planing machines, etc., Jona. Hall, Worcester, Mass.—Sawing Mill, Franklin B. Kendall, Bath, Me.—Method of turning carriage hubs, Alexander Rickhart, Schoharie, N. Y.—Feed for Sawing machines, Thomas J. Alexander, Westerville, O.—Driving Circular Saws, Thomas J. Alexander, Westerville, O.—Lathe for turning irregular forms, Samuel N. Baker, New-Haven, Conn.—Auger Handle Fastening, Wm. N. Clark, Chester, Conn.—Sawing and dressing staves, Elisha K. Collins, Cambridge, Mass. For sawing, jointing, dressing and shaping



staves at one operation.—Mortising Chisel, Christian J. Heistand, Rapho, Pa.—Mortising and Boring Machine, J. M. Jay, Canton, O.—Bit brace for boring obliquely to the stock, Charles C. Plaisted, Chicopee, Mass.—Shingle Machine, E. Webber, Gardiner, Me.—Feeding the bolt in Shingle machines, Wm. Wood, Westport, Conn.

#### LEATHER, TANNING, ETC.

Tanning Composition, Ira Carle, Kingston Township, Pa. Hemlock or oak bark, nitric acid and Glauber's salts, all to be used in one bath.—Edge Plane, for boot and shoe soles, Charles Warren, Putnam, Conn.

#### HOUSEHOLD FURNITURE.

Washing Machine, Adam Fisher, Leavenworth City, K. T.—Bureau Bedsteads, Ethan Whitney, Boston, Mass.—Fixtures for curtain rollers, Lewis White, Hartford, Conn.

#### ARTS, POLITE, FINE, AND ORNAMENTAL.

Backing Electrotpe Plates, A. H. Jocelyn, New-York.—Metallic Pens, F. A. Wait, Philadelphia.—Embossing and Printing Press, Samuel J. Smith and Charles Loekle, New-York.—Melodeon Attachment, D. L. Sprague, Townsend, Vt.—Harp attachment, played by a series of hammers, moved by the same keys that play the reeds.—Pen and Pencil Case, Edward Baptis, Hudson, N. J.—Piano Forte, G. Henry, Hulskamp, Troy, N. Y.—Breast Pin, John F. Mascher, Philadelphia.—Wrest Pins for Pianos, Gustav Schilling, Hoboken, N. J.—Inking Rollers, E. E. Barrett, Chicago, Ill.—Metallic Bridge for piano-forte, G. H. Hulskamp, Troy, N. Y.—Photography, H. A. Marchant, assignor to E. D. Marchant, Philadelphia.—Fastening breast pins, Charles F. Kobb, Philadelphia.

#### FIRE ARMS, &c.

Self-priming gun locks, M. J. Gallager, Savannah, Ga.—Shot Cartridge, Wm. B. Johns, U. S. Army.—Projectiles and smooth bored guns, John L. McConnell, Jacksonville, Ill.—Revolving Fire arm, James Warner, Springfield, Mass.—Fuze-making Machine, Albert F. Andrews, Avon, Conn.

#### SURGICAL AND MEDICAL.

Fastening Artificial Teeth, Theodore H. and Jas. P. Bradish, Utica, N. Y.—Pill Machine, James C. Ayer, Lowell, Mass.—Artificial Legs, R. H. Nicholas and Douglas Bly, Rochester, N. Y.

#### MISCELLANEOUS.

Dry Sand Cores, Wm. Gage and R. B. Felthousen, Buffalo, N. Y.—Paper Captubes, Alexander McCausland, Providence, R. I.—Covering for Drawing Rolls, Jas. M. Smith, Manchester, N. H.—Rock Drilling Machines, Lemuel P. Jenks, assignor to George A. Gardner, Boston.—Same, Lemuel P. Jenks and George A. Gardner, assignors to George A. Gardner.—Device for sealing bottles, cans, etc., Mills B. Espy, Philadelphia.—Self-setting Trap hook, Donald McLean, Boston.—Lime Kilns, Leonard Phleger, Philadelphia. The use of a series of water cells, for supporting the lime.—Fly Trap, W. F. Shannon, Greensboro, Ga.—Oil Cans, George W. and George H. Simmons, Bennington, Vt.—Signal and Alarm Bells, George Hoagland, Port Jervis, N. Y.—Hog Troughs, Elmore Johnson, Winchester, Mass.—Diaper pins, J. Heilmann, assignor to Ignatius Sturn, New-York.—Smut Machine, Everard M. Clark, Lancaster, Pa.—Mop Head, James S. Harris, East Poultney, N. Y.—Lime Kiln, John McGregor, Selma, Ala.—Same, Clark D. Page, Rochester, N. Y.—Drilling Rock, M. F. Rowlands, Pittston, Pa.—Receiving boxes for passengers' fares, J. B. Slawson, New-Orleans, La.—Brick Machine, Stephen Ustick, Philadelphia.—Locking cylindrical door bolts, Charles G. Page, Washington, D. C.—Paring and Slicing Apples, R. W. Thickens, Brasher Iron Works, New-York.

### Recent Foreign Inventions.

IMPROVED VALVE COCK—BEING A COMMUNICATION. WILLIAM WEBSTER, of Bunhill-row.

This invention relates to an improved mode of working the valves of valve-cocks, and consists in having a screw-thread cut upon the lower end of the valve stem, such screw working through a fixed nut on the under side of the cock; or in having a hole with a screw-thread formed in it, made inside the valve-stem in the direction of its axis, in which works a screw spindle, fixed to or made in one piece with the fixed nut hereinbefore referred to—the valve being opened or closed by turning the valve-stem or spindle by any of the usual contrivances.

IMPROVEMENT IN THE MANUFACTURE OF IRON AND STEEL. HENRY BESSEMER, of Queen-street-place, New Cannon-street.

This invention consists in obtaining crude or grey pig iron, hard white iron and steel, or malleable iron, direct from carbonaceous iron ores, or from any mixture of carbonaceous ores, with oxides or other ores of iron, by the application thereto of a blast of hot or cold air or steam, or of any other gaseous matter containing or capable of evolving oxygen or hydrogen gas, and without requiring any fuel except such as is contained in or is evolved from the ores of iron, and from the gaseous matters forced into and among the pieces of ore, and into and among the particles of fluid metal which have been separated from the ore.

The iron ore, either raw or previously roasted, and in a cold or in a heated state from such roasting process, is to be put from time to time into the upper part of a blast furnace. The blast of air or other gaseous matter is forced through suitable tuyeres situated below the surface of the fluid metal, or it may be in part directed into and among the pieces of ore at a level above the surface of the molten metal.

In carrying out this system of fusing the carbonaceous ores of iron, one or more fire-clay tuyere pipes are inserted on three sides of the hearth of the furnace, the fourth side being provided with a tapping hole at the lowest level of the hearth—the tuyeres, before referred to, being placed, by preference, near to the bottom or sole of the heart, so that the air or other gaseous matters may enter beneath and bubble up through the fluid matters occupying the hearth of the furnace. Other tuyeres are also fixed above the level of such fluid matters; so that the air or other gaseous matters propelled through them will enter among the masses of solid matter under operation, consisting of pieces of carbonaceous iron ores and lime, or other fluxes used to assist in their fusion, and in giving fluidity to the molten materials. In thus forcing air into a furnace or vessel containing ores of iron rich in carbon, it will be found that a very high degree of temperature will be produced in part by a further combination of such carbon with the oxygen of the air, and in part by other combinations of oxygen with combustible materials contained in the iron ore, and that the solid masses of ore will, by means of the heat so generated, pass from the solid to the fluid state, and settle down to the lower part or hearth of the furnace. The temperature of the furnace may also be assisted by the introduction of hydrogen, which, by uniting with the oxygen present in the materials, will also assist in raising the temperature and in the reduction of the metal. Hydrogen for this purpose may be most advantageously obtained in the form of carburetted hydrogen gas distilled from coal. When using air alone, large quantities of fluid cinder, rich in oxide of iron, are produced, and may be run into another chamber; and solid carbonaceous substances or carburetted gases may be forced into and below the surface of such liquid cinder, whereby the oxide of iron will become reduced and metallic iron formed, as described in a patent of the present patentee, bearing date the 19th of August, 1856.

The fluid iron may be cast into pigs, ingots, or other articles in molds; or it may be run into a separate vessel, and be there converted into steel or malleable iron, in the manner described in the specification of a patent granted to the present inventor on the 12th day of February, 1856.

In commencing to work, some coke is put into the crucible or hearth of the furnace, and by a blast of air through the tuyeres the same is thoroughly ignited; some pig iron is then placed on the coke, and it will rapidly melt and sink down on to the sole of the hearth. The furnace is then charged with carbonaceous iron ores and lime or other fluxes, not mixed, as in the ordinary process, with coke, coal, or other fuel; the lower tuyeres may then be opened, and a blast of air allowed to enter the molten iron. The intense heat produced, acting on the iron ore, will cause its fusion, accompanied by a further evolution of heat; and thus the process may be kept up, the charging on of materials going on as the charge diminishes from below; so that a continuous fusion of the ore may be kept up without the use of any fuel other than is contained in the ore and in the air or other gaseous matters forced therein.

**IMPROVEMENTS IN ORNAMENTING GLASS, AND IN THE PREPARATION OF THE MATERIALS EMPLOYED THEREIN. WILLIAM WILKINSON, of Nottingham.**

This invention consists, firstly, in interposing figured designs, pictures, prints, lace, and other textile fabrics, and ornamental and other devices (which are rendered transparent or not) between two sheets of glass, whereby the device may be apparent on the face of either sheet.

Secondly, in rendering engravings, prints, and other designs upon paper transparent, by first soaking the paper in linseed or other suitable oil or oleaginous matter, then drying it and immersing it in turpentine or spirit; or the same design may be printed on both sides of a sheet of paper and placed between the surfaces of glass. The print is attached by transparent cement to one of the surfaces, and then to the edge of the glass a narrow strip of tape is cemented, and the remaining plate of glass is applied thereon. The two plates of glass are finally secured by India-rubber, gutta-percha, or a thin metal clamp or frame; or the edges of the plates are united by melting the same by means of a blow-pipe. In order to add to or increase the effect of the printed design, at the back of one of the sheets of glass is placed a glass case containing water. This case may be formed in a piece with one of the sheets of glass ornamented as aforesaid, or it may be formed separately and be applied thereto.

This invention consists, thirdly, in the application of prints and engravings made transparent as aforesaid to the inside of glass globes and shades.

Fourthly, the invention consists in cementing a piece of paper, made transparent by oil and turpentine, as above-mentioned, upon a piece or sheet of glass; then printing a design upon it in a lithographic or other suitable press; in applying thereon another plate of glass; and in sealing the two plates, as before mentioned.

Fifthly, the patentee forms bottles and other vessels of capacity, of two thicknesses of glass, and interposes any device between the two thicknesses. In order to add to the effect, the outer surface of the outside is made plain, and any desired device is formed on the inner surface of the outside coat, or on the outer surface of the inner coat, whereby both the inside and outside of the bottle will be smooth, and thus be easily cleaned, and offer no inequalities of surface to catch the dust, etc.

The manner of laying on colored engravings or prints between glass in order to ornament the same, is as follows: Over the face of the engraving is laid a wash, composed of linseed or other suitable oil, spirit of wine, turpentine, or other spirit, and the engraving is then placed face downwards on a sheet of glass, previously brushed over with spirit of wine or turpentine. When the engraving is thus fixed on the glass, a mixture of oil and spirit is applied to the back thereof until the engraving becomes distinctly visible. A corresponding sheet of glass, with white lead or paste round all the edges, is next laid evenly on the first sheet. The prepared engraving being interposed, the two sheets of glass are pressed firmly together, and retained by a metal clamp round all the edges, or by gutta-percha, or by other suitable means.



If a glass is desired to be ornamented, and to be placed against some opaque object, then the second sheet of glass becomes unnecessary; and directly after the engraving has been applied on the glass, as before described, it may be let into a panel or otherwise, or may be let into a metal or other frame or dish. Glass, ornamented as aforesaid, let into metal dishes, would form a highly ornamental and fire-proof floor.

In the case of oil engravings, such as those known as "Baxter's," white lead or paste is placed evenly upon a sheet of glass, and the back of the engraving is pressed thereon—then round the edges of the glass a layer of cement is applied to receive the second sheet of glass; or a thin strip of metal, gilt or otherwise, is interposed between the edges of the two sheets of glass. The outer edges of the two sheets of glass are held together by metal clamps, or by a metal or other frame. Glass ornamented in this manner may be made to form the whole or part of the tops of tables, boxes, etc.

Instead of paper, perforated metal or wire gauze, painted, embossed, or otherwise, is placed between two sheets of glass to form window blinds.

**IMPROVEMENTS IN THE PREPARATION OF SIZE, WHICH MAY BE USED AS A WATER-PROOF VARNISH OR COATING. WILLIAM SEPTIMUS LOSH, of Wreay Syke, Cumberland.**

This invention consists in preparing from resin, resins, or stearine, or a mixture of the two, a substance or substances suitable for sizing or water-proofing purposes.

The inventor, first, prepares a solution of caustic soda or potash (by preference soda) by boiling carbonate of soda or potash with about equal weights of lime and a large quantity of water—about 100 gallons of water to 1 cwt. of dry soda or potash. This is effected in an iron vessel, heated by driving in steam from a boiler. After boiling about two hours the lime is allowed to settle, and the clear solution is ready for use. Into another iron vessel he puts the resins or stearine to be acted upon, and takes as much of the clear alkaline solution, prepared as aforesaid, as is required to render the resins or stearine soluble. It is found that 1 lb. of dry soda or potash answers for 6 lbs. of resin or stearine—but more or less may be used. The mixture is boiled by steam for about 6 hours, and then allowed to cool, and about 100 gallons of water are added to each cwt. of the resin or stearine solution. This is then filtered carefully through cotton cloth, to remove any insoluble dirt, etc., and to the filtered solution chloride of lime, also in solution, is added, in the proportion of about 1 lb. of dry chloride of lime to 20 of resin or stearine. This mixture, which forms a white insoluble precipitate, is then washed with an acid solution, or alum solution, and afterwards with clean water, and filtered; the substance thus obtained is in this state fit for use as a size. When using it in sizing paper, it is added to the paper pulp, with or without the addition of ammonia, in the beating engines, by which means it becomes well mixed with the pulp. By mixing ammonia with the prepared size, in the proportion of, say 1 part of ammonia to 500 parts of size, it becomes more equally mixed with the pulp.

When the size, prepared as above described, is to be used as a varnish, it must be dissolved in a spirit, or essential oil, or naphtha, or rendered viscid by ammonia. When used as a coating, it may be spread, with or without the addition of ammonia, evenly on the surface to which it is to be applied, and passed upon such surface through heated or cold rollers, or be otherwise submitted to hot or cold pressure.

**IMPROVEMENTS IN AGRICULTURAL DRILLS. THOMAS CHAMBERS, Jr., of Colkirk, Fakenham, in the County of Norfolk.**

This invention has for its object improvements in agricultural drills, with a view to deposit at intervals in place of continuously, and the same is applicable when drilling seeds and liquid manures, and also when drilling seeds, water, and manure. For these purposes there is applied a rotating hollow wheel or chamber to each channel or furrow made by the drill. The rotating hollow

wheel or chamber has spouts or passages at intervals at its periphery. The seed and liquid manure, or the seed, water, and manure, are delivered into the interior of the rotating wheel or chamber from the separate compartments of the drill containing them, and they are retained from flowing out from the wheel or chamber, except when, by the rotation of the hollow wheel or chamber, a spout or outlet comes to the ground. The axis of the rotating wheels or chambers may receive motion by wheels thereon, which run on the land, and the running wheels may be made to expand and contract, to vary the distance at which the deposit takes place from the spouts or outlets, or the axis may receive motion by gearing from the drill.

**AN IMPROVED METHOD OF OR APPARATUS FOR INKING, PRINTING OR STAMPING SURFACES.** CHARLES WILLIAM LANCASTER, New Bond street.

This invention consists in mounting an inking roller upon an arm or lever in such manner, that when the stamping or printing surface is at rest, the roller is held clear thereof, and that when the printing surface moves, it acts upon the lever, presses it back, and causes the inking roller to traverse over and ink the printing surface. Upon the printing surface resuming the position from which it started, a spring draws the lever and roller to their original position, and causes the inking roller in its course to travel a second time over the printing surface.

#### Mills Stopped.

THE number of cotton looms that have been stopped in New-England, in consequence of the high price of cotton and the low price of goods, is about six thousand, and orders have been given to stop many more, as fast as the yarn runs out. We heard, yesterday, of two large mills that will run only till the cotton now in process of manufacture is exhausted. This is the only remedy. We talk of the short supply of cotton. The evil is not there; it is the over supply of cotton machinery. The looms now in operation are not only too many for the supply of cotton; they are too many for the demand for cotton goods at anything like the prices which alone, at the present cost of the raw material, can return a new dollar for an old one. In England thirty thousand looms have been stopped, and prices have quickly responded to this judicial curtailment of production.—*Providence Journal*.

#### Copper in the Sea.

EXPERIMENTS are now in progress to show that the sea is constantly charged with a solution of copper. Mr. Septimus Piesse caused a bag of iron nails to be hung from the sides of steamers passing between Marseilles and Nice, and obtained a precipitation of copper upon the iron. He finds the same metal in the substance of animals inhabiting the sea, and recommends the popular experiment of putting an oyster—a *bad one*, if possible—on the blade of a knife, and leaving it there for twenty-four hours, when, on the removal of the oyster, the copper will be found on the knife. In Mr. Piesse's opinion, the beautiful blue color of some portions of the Mediterranean is due to an ammonical salt of copper, while the greenness of other seas is owing to the chloride of copper.

#### The Mechanics of this Number.

ON account of the absence of the junior editor in New-England, this department of the present number is not quite full. It is difficult to supply such matter, exactly fitted to a pattern, either in quantity or quality, while absent from home. But we present a few matters of special importance, and will endeavor to make amends hereafter for all present deficiencies. Our future numbers will contain more of original inventions, than we have lately been accustomed to present to our readers.

# THE FAMILY CIRCLE.

## Scientific.

### Chemistry for the Million.

HAVING before given the names and a brief description of the more abundant elements in nature, the compound resulting from these will next claim our attention. The figures prefixed denote the proportions of each ingredient and of the compound. Thus, read the first;—8 lbs. of oxygen, combined with 1 lb. of hydrogen, form 9 lbs. of water; and so the others, putting “combined with” after the first word in each line, and the word “form” after the second.

8 OXYGEN                                      1 HYDROGEN                                      9 WATER.

Water with other substances forms *hydrates*, as hydrates of lime, of iron, etc.

16 OXYGEN                                      6 CARBON                                      22 CARBONIC ACID.

Carbonic acid forms Carbonates, as Carbonate of Lime, (chalk, marble, lime-stone.)

Carbonate of Soda (washing soda,) bi-carbonate of soda, (cooking soda) etc.

14 NITROGEN                                      3 HYDROGEN                                      17 AMMONIA.

The three compounds above, water, carbonic acid, and ammonia constitute a very large part of the food of all growing plants. Nothing could grow if deprived of either of them. Decaying plants and animals are always giving them off; and living, growing plants are always receiving them.

*Water.* The reader will see by the table above that this liquid is composed of two gases, oxygen and hydrogen. The first is the cause of all combustion; the second is one of the most inflammable substances in nature; and yet the liquid composed from them is the great extinguisher of flame. Oxygen is a little heavier than air; hydrogen is fourteen times lighter than air; and yet water composed from them weighs about 63 lbs. to the cubic foot.

The laws by which water is governed ought to be understood by all. 1st. It is perfectly fluid at ordinary temperatures—seeks its level, and will obtain it perfectly if no disturbing forces operate to prevent—will rise as high in the spout of the teakettle as it stands in the kettle itself, as high in the penstock as in the fountain, and as high in one part of the broad ocean as in any other part, so that, measuring from the center of the earth, every part of the surface will be equi-distant from that point.

2. As water cools from a high temperature, say from the boiling point, it diminishes in bulk, till it comes down to about 39° Fahrenheit. It then, contrary to the general law, that bodies shrink as they cool, expands gradually till it comes down to the freezing point, 32°, where it suddenly expands and crystalizes into ice. This expansion below 39° is the cause of ice being lighter than water, so as to remain on the surfaces instead of sinking. By remaining on the surface it protects the water beneath from the cold air, and prevents freezing more than a few inches, or at most a few feet in thickness. Whereas, if it sunk to the bottom, the surface would freeze and sink successively, till the whole mass of our rivers, lakes, and even the ocean itself, in the polar and temperate latitudes, would become solid bodies of ice during winter, and would not dissolve sufficiently soon on the return of the sun to admit of vegetation, by reason of the chill that would be produced on the atmosphere. Nothing more strikingly illustrates the wisdom and goodness of the Great Author, and the constant executor of nature's laws.



3. When water is heated, it gradually expands from 39 degrees upward, enlarging its bulk so slowly as not to be perceived except by the use of nicely constructed vessels, until it reaches 212°. At this point it turns into steam, of which every drop of water gives a bulk 1700 times greater than its own. When a kettle of water over the fire comes to 212°, the boiling point, where it begins to form steam, all of it would pass into steam at once with a violent explosion but for one reason, and that is, that when water changes from a solid to a liquid state, and then again when it changes from a liquid to a vaporous state, it takes heat from the surrounding objects. Every one must have noticed that when snow melts it chills the air, and when it begins to freeze it warms the air. When it consolidates, it gives heat to surrounding bodies, and when it liquifies it takes heat from surrounding bodies. So when it turns from vapor to a liquid state it gives out heat, and when it changes from a liquid to a vapor, or steam, it takes in heat—steals heat, so to speak, from every object near it. You heat water to 212°. The first particle of steam that goes off takes away heat from the water that is left, and so between the stealing away of heat above by the departing steam and the infusing of heat by the fire below, the temperature remains at 212°, whether you have little fire or much. If the water is open and uncompressed, you can not heat it above that point, and if you have but very little fire, it will not fall below. The more fire you make, the faster the steam passes off; but the faster the steam passes off the faster it carries off with it heat from the water left behind. If it were not for this it might be as dangerous an operation to convert a kettle of water into steam as to explode one filled with gunpowder. At 212° the expansive force of water—its tendency to fly off in steam—is 15 lbs. to the square inch, but as the pressure of the atmosphere is 15 lbs. to the inch, the one just balances the other. If you could heat it, when open and uncompressed, above 212°, the expansive force would overbalance the aerial pressure and there would be an explosion. But we have seen that this is impossible—that it can not be heated above 212°—because the steam passing off the instant it would rise above that point, takes away heat precisely as fast as the fire infuses it.

We have considered the facts of the fluidity of water from 32° to 212°, of its solidity below the former point, and of its gaseous, or vaporous state, above the latter. We desire the reader to impress on his mind the facts that, when water changes to ice it gives out heat, imparting it to surrounding objects, and that when it changes back to water it absorbs heat, taking it from all bodies near, and thus producing a chill; also that when it changes to steam it absorbs still more heat than when it passes from ice to water, taking it from any body near, but mainly from the water which it leaves behind yet unevaporated. If it evaporates from the surface of the ground, then it takes its heat from the ground itself. There is no more prolific cause of cold, unproductive soils, than the evaporation of undue amounts of water from their surface. As the hottest fire will not heat an open kettle of water above a certain point, because the evaporation from the surface carries off heat as fast as the fire infuses it, so the sun can not heat a soil saturated with water, because the evaporation carries off the heat, which the sun would otherwise infuse in the soil.

### **Insects Injurious to Vegetation.**

INSECTS INJURIOUS TO THE ORANGE TREE.

We avail ourself again of the careful observation, and minute and reliable statements of our friend Mr. Glover, in relation to insects found in the South. And here we may be permitted to say that we regret very much that our learned friend has resigned his position in this department of the Patent Office. His peculiar genius is ad-

mirably fitted for such duties, and his retiring will cause a void not easily filled. His models of fruit, and the reports from which we gather what follows and the substance of our last chapter on this subject will bear perpetual testimony to his industry and skill. But we must proceed with our subject, and we first describe,

THE ORANGE-SCALE.—*Coccus?*

The insect which has been so destructive to the once flourishing orange-groves of Florida presents the appearance of a minute, narrow, elongated scale, with a narrow semi-transparent, whitish margin. That of the female resembles one of the valves of a long muscle-shell, in shape, and adheres closely to the leaf or branch on which it is fixed, and is apparently formed by successive semi-circular layers added from time to time. When fully grown, it measures about the tenth of an inch in length, by about the fortieth part of an inch in breadth, at the broadest part.

The young insects are produced from eggs deposited by the female under the broader end of the outer case, or shell; and, when first hatched, are furnished with six legs, by means of which they escape from under the maternal shelter, which is somewhat elevated from the leaf, at the hinder part, to allow the egress of the young, which are extremely small, and appear in numbers, like minute, yellowish specks upon the leaf; but, if magnified, the six legs, two antennæ, and two short bristles, at the end of the abdomen, can be plainly distinguished. The body is of a pale-yellowish color, and divided into segments.

When tired of rambling, and having arrived at a suitable place for feeding, the cocci fix themselves to the leaf, or branch, for life. A light-colored, semi-transparent film, or case, with two projecting points at the narrow end, is soon formed over the young insect, and under this thin scale, it may at first be plainly perceived. The scale gradually increases in size, and becomes more opaque and brown, until the shell of the female attains its full growth, at which time it measures about the tenth of an inch in length. If the large scales are taken from the leaf, the female larva, or worm, may be seen in the concavity of the scale, in the same manner as an oyster or muscle, rather in the concave valve of its shell. This grub is of a yellowish, or sometimes pink color. The case itself, when turned upside down, appears to have a narrow margin of a whitish, or semi-transparent substance, where it had adhered to the leaf; a flat flap, or wing, extends on each side from the head, or narrowest end, at least two-thirds down the shell. This appears also to have adhered to the leaf. A longitudinal opening is left between the two projecting pieces, where the naked body of the grub may be seen. The end towards the thicker extremity, is often vacant until filled with eggs, which, in color, are yellowish or pink. The head of the grub is placed towards the narrow part of the scale, and a piercer, or thread-like filament, proceeds from the under part of the breast, by means of which it sucks the juices from the plant. If the scale is gently removed from the leaf, it will often be found to hang to it by means of this thread-like piercer.

When the female commences to lay her eggs, under the shelter of the scale, they appear to be deposited in parallel rows on each side; but it is difficult to ascertain their number correctly. As many as twenty or thirty, however, have been counted in one female scale. The female decreases in size in proportion to the number of eggs laid, and finally, after having deposited all under the scale, she dies and dries away in the smaller end, with the case still adhering to the leaf. The scale of the male is much smaller than that of the female. The grub inside, after changing in a pupa, of a yellow color, with rudiments of wings, legs, and antennæ, eventually emerges from the case a perfect two-winged fly, so extremely minute as to be scarcely perceptible to the naked eye.

The head of the perfect fly is small, rounded, and furnished with two comparatively long, jointed, and somewhat hairy or bristly antennæ; the thorax is very large; it has six short legs, and two large, transparent wings, in which are two nervure. The body is short, in comparison with the thorax, and has a long point, curved downwards at the extremity of the abdomen, which is somewhat hairy. It is said of some of the coccus tribe that the males escape backwards from the shell, or case, with the wings extended flatly over the head.

Various remedies have been tried to arrest their progress, such as fumigating the trees with tobacco-smoke, covering them with soap, lime, potash, sulphur, shellac, glue, and other viscid and tenacious substances, mixed with clay, quick-lime, salt, etc.; but all have failed, partially or entirely, and it appears not to be in the power of man to prevent the ravages of these insignificant and insidious destroyers.

The plan of highly cultivating and enriching the soil has also been much recom-

mended, as promoting a healthy, vigorous growth, and strengthening the constitution of the tree, so that it is better enabled to withstand the attacks of these foes. Grease from fat bacon, rubbed on the trunk and main branches, or the rind or outside thick skin placed in the fork of the branches, where the fat and salt may run down the main stem, is said by one person to have been of much benefit; but others, who tried this plan, assert that the trees were killed in consequence of the application. In fact, so many different remedies have been recommended, and so many contradictory reports given of the results, that it will not be prudent to place reliance upon any of them, until a regular series of experiments shall have been instituted with the various mixtures, upon trees of the same age and strength in different soils and localities, and a faithful report given as to the success or failure—bearing always in mind, however, that although the old scale insect may be destroyed, yet millions of eggs may remain unhatched under the sheltering scales, waiting only for a few days' genial sunshine to hatch and spread over the tree, which, perhaps, may have been washed in the meantime by heavy rains, so as not to leave a vestige of the mixture remaining to prevent the young from fixing themselves, *ad libitum*, when they first emerge from the sheltering scale.

Another kind of scale insect (*coccus*) is also found upon the orange-trees, which measures about the tenth of an inch when fully grown, and is of a much more oval form than that already described. The young cocci were of a yellowish-white color, and had the head and thorax somewhat defined by indentations on the sides, and marks on the scale itself. They are furnished with two antennæ, and had six legs, by means of which they moved about the leaf until they found a place suited to their taste, when they immediately fixed their piercers in a leaf or branch, and became coated with a scale-like covering, which appeared to adhere to the surface of the place where it was fixed; and here they remained motionless the remainder of their lives.

This description applies to the female *coccus* alone, as the males were not discovered; but doubtless they resemble the species already described, in being provided with wings, as well as in general habits. As the female scale becomes older, it gradually assumes a brownish-black appearance, having a somewhat light colored margin. This *coccus* appears to be peculiarly subject to the attacks of parasitical insects, which serve materially to check its increase. Many of the scales were observed in September to be punctured with small holes in their backs, made no doubt by small parasitical flies, which had devoured the original tenant of the scale. One of the flies which came out of these scales measured about the twentieth of an inch in length; the body and thorax were of a metallic green color; the eyes black, and the legs of a brownish color; the four wings were transparent, and the antennæ jointed and hairy.

Another hymenopterous fly came out of the dead scales, which also measured about the twentieth part of an inch in length, the thorax and first segment of the body being light-brown, with the rest of the abdomen blackish and hairy; the head was furnished with three ocelli; the four wings were transparent, and the antennæ long, jointed, and hairy. These parasitical flies no doubt do much good in lessening the numbers of this kind of *coccus*; as, although breeding in similar situations, and with apparently as good a chance to multiply as the others, it was not found to be nearly so numerous as the scale insect first mentioned. This may perhaps be attributed to the attacks of these flies, as hundreds of dried-up scales were seen with large holes in their backs, and the contents eaten out as above described.

While on the subject of the orange-scale insect, it may be as well to mention that some time last year (1855) another *coccus* was imported into Jacksonville, Florida, on some lemons sent from Bermuda; and, as they may perhaps spread in the vicinity, it would be well to draw attention to the insect, and describe it as far as known. The length of the full-grown female scale is rather more than the twentieth of an inch; it is somewhat pear-shaped, and of a brown color; the grub is of a reddish-yellow, and furnished with a piercer from its breast, like the *coccus* first described; the young have two antennæ, six legs, and two long hairs, or bristles, at the end of the body. The male scale is not so large as the female, and is formed of a white, cottony or parchment-looking substance, constituting a case, with an elevated and rounded ridge in the center, in which a reddish pupa was found. The mouth of this case was stopped up with a dark-looking substance, apparently the cast skin of the larva. The male larva is reddish in color, and measures not more than the fortieth of an inch in length. The perfect fly is also red, and is furnished with two hairy antennæ, six legs, and has the thorax very large. The two wings are transparent, and the end of the body is furnished with a curved, hard projection. As it is very probable that this insect will



increase, it would be well to note any progress it may make during the ensuing year, and to use the remedies suggested in the first article on the coccus of the orange.

There are also found on the orange-trees numbers of small mites which have frequently been mistaken for the young cocci; but they may be very easily distinguished by their activity from the young scale insects, which crawl about very slowly. The mites have eight hairy legs, somewhat like those of minute spiders, and are mostly of a yellowish color, although some are also found of a delicate pink hue. They are generally seen briskly running among the stationary cocci, and may often be found concealed under the old scales; but, whether they do any harm to the tree, or merely feed upon the dead or dying cocci, has not yet been satisfactorily ascertained.

The pupa of a parasitical fly was found under the scale of one of the cocci; the head, wings, antennæ, and legs were perfectly formed as in the ichneumon-flies; the eyes were comparatively large and brown, and the rest of the body of a whitish-yellow. The perfect fly could not be recognized, however, as the pupa died without changing.

FOR THE AMERICAN FARMERS' MAGAZINE.

MESSRS. EDITORS:—There was a beautiful white horse of great value killed by lightning several nights ago. When found next morning his tongue was burnt, black and swollen, so as to expand his jaws frightfully. His snow-white skin appeared as though dotted all over with innumerable dark spots, which on close examination were found to contain minute punctures as though small shot had been driven through from the internal parts outwardly, and the hairs immediately surrounding these holes were discolored almost to blackness. Is such a legitimate or common effect of the electric fluid? It appeared almost as though it was conducted by the animal's breath through his mouth into his body, and there exploded into thousands of minute fragments which escaped through his hide, staining every hair it touched. It just occurs to me, at this late moment, that the change of color might have been caused by the scorchings of electrical heat rather than any other chemical action. What do you think of it, if you please?

Yours, truly,

ANDOVER, Aug. 17, 1857.

E. SANBORN.

The above shows a frightful effect of electricity. Will some one versed in the laws of this fluid, (so far as they are known, and that is not very far,) give us his views of its action in this case? Were the punctures in the skin made by an inward or an outward movement of the fluid? There was an instant when the animal was charged (overcharged) with electricity. The next instant his body contained no more than the normal amount of the fluid. Was the charging instantaneous, and the discharging gradual? or was the charging gradual and the discharging instantaneous? or were both instantaneous? Was the horse electrified by induction, or only by conduction, and if the latter, was the fluid passing from the clouds to the ground, or from the ground to the clouds? If we knew half as much of the laws, which govern the electric fluid, as some of our learned professors, Prof. E. S. Snell, of Amherst College, for instance, and scores of others, whom we have not the happiness of knowing as well, we could give a theory of the operation and course of the fluid in the case mentioned by Dr. Sanborn, which should be at least plausible, and therefore *measurably* satisfactory.

Such men as we have just alluded to do not half realize their obligation to throw some of their light outside of college walls. A practical article, if but five pages in length, detailing some of the more important laws of electricity, and showing what are some of the safer positions in a thunder storm, from the pen of the gentleman just named, or another equally well qualified to give it, would be a means of saving several valuable lives every year. Who will give us that very article, and thus entitle himself to our and the world's thanks?

## THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIOGA CO., N. Y., IN JULY, 1857.

By R. Howell.

*Place of Observation, 42 degrees North, on a Diluvial Formation, about 40 feet above the Susquehanna River, and 800 feet above tide, according to the survey of the New-York and Erie Railroad.*

July.	6 A.M.	1 P.M.	9 P.M.			REMARKS.
1	57	62	55	South	Cloudy.	Hard rain nearly all day. [bloom.
2	53	70	53	"	"	Ladies' blush and double damask rose begin to
3	52	68	52	North	"	Light rain in afternoon.
4	56	78	54	"	"	Tulip tree in bloom.
5	52	80	61	"	"	[at 6 P.M.
6	61	72	58	West	"	Hard short shower with hail and violent wind
7	58	85	64	S.&N.	"	Shower at night and evening.
8	62	74	53	West	"	Red currants begin to ripen.
9	51	84	58	"	"	Common sweet elder begin to bloom.
10	58	88	68	South	"	
11	63	90	69	West	"	
12	66	91	68	"	"	Timothy grass begin to bloom.
13	65	92	68	North	"	One field of oats seen in head.
14	68	96	69	N.&S.	"	
15	68	91	65	South	"	
16	66	89	65	"	"	A few farmers begin haying.
17	69	93	68	S. W.	"	Milk weed begin to bloom.
18	67	94	70	"	"	Thunder in afternoon; chestnut trees in bloom.
19	66	96	65	S. East	"	Hard shower with hail between 5 & 6 P.M.
20	68	93	64	South	"	Very hard shower at 6 P.M., with hail.
21	65	78	62	"	"	Light shower between 1 and 2 P.M.
22	63	84	62	"	"	Light rain from south at 2 P.M. Th'r & Lt'ng.
23	62	75	62	N. W.	"	Hard rain all afternoon; commence about noon.
24	65	84	66	"	"	Light dash of rain in P.M. Corn begin to silk.
25	60	90	68	"	"	Light dash of rain in the afternoon.
26	66	92	72	South	"	Basswood trees in full bloom.
27	68	91	74	"	"	
28	72	90	69	"	"	Rain at 3 P.M. from the south.
29	62	75	60	North	"	
30	59	67	62	South	"	Considerable rain in the afternoon.
31	63	81	69	"	"	

FOR THE AMERICAN FARMERS' MAGAZINE.

## The Magic Square.

MESSRS. EDITORS:—If you do not deem it inconsistent with the object of your paper, I should like for you or some of your correspondents to throw a little light on the construction of the Magic Square.

Many farmers have a taste for mathematical investigations, and it would, no doubt, afford them a pleasure to meet occasionally with the solution of some curious problem.

Perhaps there are few school-boys who have not puzzled themselves in trying to form the Magic Square. The whole difficulty consists in not understanding the rule. There should be a rule for everything, and this rule should be founded on reason.

It is no difficult matter to form one of those squares when the sides composing it consist of an *odd* number of places; but when the number is *even*, *hoc opus, hic labor est*, and this simply because there is no *rule*—at least, I have never been able to discover one.

I was in hopes that Prof. Pierce, who introduced this subject in one of his Lec-

tures, would have made the matter plain; but he did not—at least to my mind. I shall here introduce a square of each kind, so that some of your youthful readers, in a leisure moment, may exercise their ingenuity in constructing similar ones, and in finding out the rule.

THE MAGIC SQUARE with an *odd* number of places in a side.

22	47	16	41	10	35	4
5	23	48	17	42	11	29
30	6	24	49	18	36	12
13	31	7	25	43	19	37
38	14	32	1	26	44	20
21	39	8	33	2	27	45
46	15	40	9	34	3	28

This square consists of 7 places in a side, consequently the highest series is 49, and the sum of the series, in each column both ways, is 175.

The rule by which this square is constructed is easy, but the *reason* of it is not plain.

THE MAGIC SQUARE with an *even* number of places in a side.

11	92	12	88	14	15	16	84	83	90
100	82	26	27	67	35	59	58	50	1
99	19	75	74	33	66	42	43	51	3
2	20	76	73	34	36	60	57	49	98
4	81	25	28	68	65	41	44	52	97
94	21	77	72	32	37	61	56	48	7
5	80	24	29	69	64	40	45	53	96
6	79	23	30	70	38	62	55	47	95
93	22	78	71	31	63	39	46	54	8
91	9	89	13	87	86	85	17	18	10

This square has 10 places in a side, making a series of 100, and the same each way 505.

What we want now, is a *rule* by which this square was constructed. Will some one please make it known? B.

To the private inquiry of the person who sent the above, our answer is, *yes, we accept your proposition*, and we are obliged to answer in this way, because no date was prefixed to the communication, and the post-mark was too obscure to indicate the writer's place of residence. With regard to so much of the communication as we have published, will some one give us the rule asked? This is a kind of amusement which has its utility.—Ed.



## Domestic.

FOR THE AMERICAN FARMERS' MAGAZINE.

### Glue.

PERSONS who use glue may save trouble, loss, time, and glue, if they will prepare it for use as follows:

Dissolve the glue in as small a quantity of water as possible, and at the heat of boiling water, and while warm, (and away from fire where alcohol will not inflame,) pour into the thick mass enough of alcohol to make it as thin as you want it, stirring briskly while adding the alcohol. Put it in a bottle, over the mouth of which tie a piece of air-proof India rubber. Thus glue may be preserved during many years, ready for use at any time. In cold weather it may need warming a little before use.

MERCHANT KELLY.

BENTONVILLE, Indiana.

### Puddings by the Wholesale.

HERE is a rule for building a dozen puddings or more on one foundation. What an idea! It may be a good, one, however. Let the ladies look at it and see:

**BAKED PUDDINGS.**—Take about three eggs for each quart of milk, beat them thoroughly and stir with the milk, adding salt and sugar or molasses to the taste, and a little nutmeg, or other spice if desired. It is now ready to pour into the pudding-dish and set in the oven as a custard pudding, or with apple or other sauce stirred in, as a fruit pudding; or it can be used as a basis for almost any other pudding. Take the custard as prepared, and thicken it somewhat with cold corn cake or pone crumbled fine, and you will have a light and excellent Indian pudding, or thicken with dry bread well crumbled, for a good bread pudding, that will please all. Or the pieces of stale bread may be sliced thin, and slowly dried and browned in the oven, then pounded fine or ground in the coffee-mill, and a little of this powdered rusk—about one tablespoonful to a quart—used to thicken it, with ground clove for spice, and you have a rusk pudding.

Add rice which has been previously boiled in milk, to the custard, for a rice pudding, or a little sago or tapioca, well soaked and boiled, for a still further variety. Hominy well boiled, or grated sweet corn, too, make puddings which some are fond of. A pudding which we particularly like, is made by taking very thin slices of bread buttered thinly, putting a layer of this at the bottom of the dish, then a layer of apple sliced thin, another layer of bread, and so on till you have enough, then pour a custard made as first directed over the whole, and put it into the oven. Or for the bird's nest pudding, take small tart apples, pare and core, put them in the pudding-dish and pour the custard over.

The proportion of eggs may be increased or diminished in any of these puddings, according to the supply, and raisins or West India currants can be added or not at the pleasure of the cook. All of these puddings should be baked very slowly, and not suffered to boil in the oven. Sweet cream, with sugar, and if wished, a little nutmeg added, makes the best sauce for any of those. Or thicken boiling water with a little flour, add a small lump of butter, sugar, salt and spice, and either lemon juice, or lemon essence and vinegar, and you have a good, plain sauce.—*Ohio Cultivator.*

### Hard Cement.

THE following cement has been used with great success in covering terraces, lining basins, soldering stones, etc., and everywhere resists the filtration of water. It is so hard that it scratches iron. It is formed of ninety-three parts of well-burnt brick, and seven parts of litharge, made plastic, with linseed oil. The brick and litharge are pulverized; the latter must always be reduced to a very fine powder; they are mixed together, and enough of linseed oil added. It is then applied in the manner of plaster, the body that is to be covered being always previously wetted with a sponge. This precaution is indispensable, otherwise the oil would filter through the

body, and prevent the mastic from acquiring the desired degree of hardness. When it is extended over a large surface, it sometimes happens to have flaws in it, which must be filled up with a fresh quantity of the cement. In three or four days it becomes firm.—*Mass. Plowman.*

### Potato Yeast.

A NEW-BEDFORD lady vouches for the good quality of yeast made after the following recipe:

Cook and mash ten peeled potatoes, pour on a quart of boiling water and stir well, and add a coffee cup of sugar; let this stand a few minutes; pour in a quart of cold water, wanting a gill, and when lukewarm stir in a pint of yeast, and set in a moderately warm place to rise. When well fermented, put into a stone jug, cork tightly, and tie the cork down and keep it in a cool place. After the first rising keep enough of this yeast for the second batch. A teacup of this yeast is sufficient for two large loaves of bread; most excellent it is for muffins and griddle cakes also. There is no need for hops or flour in it, and in my opinion it is the best yeast I have ever tried, and I have experimented in all known recipes.

### Treatment of Hens.

HERE is a timely item, containing a valuable hint to poultry keepers. An uncredited paragraph in an exchange says: "Two flocks of hens were compared. One laid eggs almost all the time. The other laid scarcely any. On examining their treatment the following differences were found to exist; the former had a warm cellar to roost in during the winter; the latter roosted in a stable where the wind blew in. The former had a fine place in an open cellar for scratching among ashes, lime, and earth; the latter scratched in the manure heap, or in the stable when the cows were put out. The former had plenty of good water, with milk, etc.; the others had no drink except what they could find. It can be seen, we think, why one flock laid eggs generously, and the other did not."

### Agriculture in Portugal.

PROFESSOR HADDOCK, in his address before the State Agricultural Society in 1855, repeated the following legend:

"When reminded of their want of progress in agriculture and manufactures, the Spaniards relate a legend, that Adam, once upon a time, requested leave to revisit this world; leave was granted and an angel commissioned to conduct him. On wings of love the patriarch hastened to his native earth; but so changed, so strange, all seemed to him, that he felt at home nowhere till he came to Portugal. 'Ah, here,' exclaimed he, 'set me down here; everything here is just as I left it.'"

### Hatred of Work.

REV. HENRY WARD BEECHER says: "God is the most wondrous worker in the universe—facile, sleepless, untiring; but men instead of counting it a joy to labor, are always striving to evade what is to them a burden, and look forward with delight to the time when they can 'retire.' As a worm, feeding upon mulberry leaves, might say, 'How glad I shall be when I am fat enough to roll myself into a cocoon;' so they eat the leaves of duty and long for no higher joy than this silk worm's happiness. And thus we have cocoon merchants, cocoon lawyers, cocoon ministers, cocoon—everything. The worm's cocoon is worth unwinding, but these men are spoilt—it does not pay to unthread them."

### Fault Finders.

IN our judgment there can be no more detestable companion than a brutish fault-finder. We have them every where. Their tailor, their shoemaker, their merchant, all are defective. On Sunday they complain that their preacher preaches too long or too short. In business their lawyer gives wrong advice, and charges too much for it; and the printers—bless the craft, come in for a good share of their spleen. This one's editorials are too lively, that one's too dull and prosy; this is perhaps in the wrong place, and there's a word the "devil" mis-spelled. Then the climate is bad, the weather is too hot or cold, and things are wrong generally and out of gear particularly. Such persons had better wait for a change in their mode of existence, when probably the weather will be really warm and dry.

### Rare Plants for Distribution.

It is stated in a letter from Washington, that the propagating department of the United States Botanical Garden there is in a position to distribute a large number of seedling trees, cuttings and other like matters, in the same manner as dry seeds are given out at the Patent Office. Mr. W. A. Smith, United States Horticulturist, it is said, has now under glass in the garden near the Capitol grounds, hundreds of species of trees, flowers and shrubs, procured through the expeditions to Japan, and to the South Seas, which will be distributed to the public this year. A considerable addition to the green houses is under way in the shape of a large octagon to accommodate the rapidly growing results of Mr. Smith's diligence and scientific enthusiasm. The increased liberality of Congress to this highly useful enterprise will soon be felt throughout the whole country, and we hope our readers will not be backward in availing themselves of these facilities.—*Southern Cultivator*.

### Take Good Advice Whencesoever it Comes.

SOME folks are silly enough to disregard all good advice unless he who gives it lives up to his precepts. This is just about as smart as it would be in a traveler to scorn the directions of a finger-post, unless it drew its own leg out of the ground and hopped after its own finger.

### Potato Rot.

THE potato rot has made its appearance in parts of this county, says the *Salem Standard*, but as yet has not assumed an alarming aspect. It abounds most in potatoes grown in low ground, and is doubtless occasioned by the repeated rains with which we have been visited this season. The crop is more than an average one, and must pay a handsome profit to producers, if this blight does not prove of too serious a nature.—*West Jerseyman*.

### A Sour Blessing.

A Frenchman learning English, and anxious to say something very striking, in parting from a lady, consulted his dictionary, and there finding that pickles meant to preserve, he bade her farewell, with the emphatic exclamation; "May heaven pickle you!"

### Rheumatism.

LEMON juice is relied upon by the physicians of London for curing the rheumatism. Three table-spoonfuls per day is a dose for a man.

### Poor Substitute for Industry.

"WHEN a fellow is too lazy to work," says Sam Slick, "he paints his name over the door, and calls it a tavern or a grocery, and makes the whole neighborhood as lazy as himself."

### Gentlemen and no Gentlemen.

THE late Vicar of Sheffield, Rev. Dr. Sutton, once said to the late Mr. Peech, a veterinary surgeon, "Mr. Peech, how is it you have not called upon me for your account?" "Oh," said Mr. Peech, "I never ask a gentleman for money." "Indeed," said the vicar; "then how do you get on if he don't pay?" "Why," replied Mr. Peech, "after a certain time I conclude that he is not a gentleman, and then I ask him!"

### Swallowing Poison.

If poison should be swallowed accidentally, take two teaspoonfuls of ground mustard, mixed in warm water. It will operate as an instantaneous emetic.

### Cheap Fruit.

AN American, at Gibraltar, writes that he bought "two pounds of grapes, two pounds of apples, two of peaches, two of lemons, and a basket to carry them, and all for a quarter of a dollar."



## Children's Page.

Now, children, a little more about our German boy, and a bit of a moral; and then we will give you a question or two in arithmetic, and you may get Henry, Charley, Fanny or Isabella, or any one else to help you solve them if you can not do it alone.

To-day the boy brought us a bundle of letters. The first opened said: "Enclosed is that balance of one dollar." We looked; there was no dollar; we said, but perhaps not as playfully as we felt: "A, you must have got that dollar; we shall take it out of your wages." Nothing more was said, and we supposed that the writer of the letter had posted it hastily and forgotten to put in the dollar, as we have done sometimes, and then written another and sent it with the money endorsed to chase the first, and carry on our apology. At the close of the day, A came to us and assured us most seriously that he had not taken the money. Of course he had not, for the letter was closely sealed, and we had not had the least suspicion. But he had been feeling badly for two hours or more. We hastened to relieve him by assuring him that we were only in fun, that we meant nothing, and knew he would do no such thing. Our moral is, that "it is a good thing for children (and everybody else) to be so honest, sincere and true, that nobody can suspect them." The letter, in this case, unbroken as it was, would have saved the boy from suspicion, but another time circumstances may be different, and it is always desirable to have a good character to fall back upon. *A character above suspicion is worth more than every thing else.*

### QUESTIONS IN ARITHMETIC.

A thousand of the operations by which God constantly blesses mankind, are so silent, so quiet, so common, that we think little of them. Look at the falling rain. If men were to water a parched acre, what a bustle, what an array of horses and carts and drivers there would be; and they could not do it half as well after all as it is effected by a single shower. It is the hydraulic power of the atmosphere that waters the earth, is it? Yes; but that power is God's power, as all other power is. His hand waters the earth and makes it fruitful; and now in order that the children may have some idea of the extent of his power and goodness in this one thing, we want they should study out and answer these questions. Calling the cubic foot of water 63 lbs., how many tons of water fall on an acre of land in a gentle shower of two or three hours continuance, which gives one inch in depth? How many in a township of fifty square miles? How many on a county forty miles square? And how long a canal, 25 feet wide and 4 feet deep, would the water which falls in such a shower on a State of 50,000 square miles, fill? If an answer is sent us to these questions, with the figures neatly written out, we will propose others at another time.

We advise the farmers' boys to exercise their judgment of distances, height, size, and weight, by a sort of game of estimating, to see which will come the nearest. Say, how far off is that tree? 20 rods says William; 25 rods says James. Measure it. It is 19 rods; William beats. How high is that plum-tree? 20 feet, 18 feet, 25 feet, 30 feet, are said; it measures 23 feet. The boy who said 25 has beat. How large is that log? 9 feet in circumference, 8 feet, 6 feet. Draw a cord around it and see. If a yoke of oxen are to go on the scales, let the boys try their judgment at estimating beforehand the live weight. Or if an ox is to be slaughtered, let them pass their judgment upon the net weight.

If you wish to be beautiful, you must be good.

## Book Notices, etc.

### INTRODUCTION TO MONTEITH'S MANUAL OF GEOGRAPHY.

This is a good little work for children; is highly illustrated, as works for that class should be; and it makes us wish there had been such works when we were a child. Published by A. S. Barnes and Co., 51 and 53 John street, N. Y.

**THE NATIONAL PRONOUNCING SPELLER**, by Richard G. Parker and J. M. Watson, author of "The National Series of Readers." A. S. Barnes and Co., 51 and 53 John street, N. Y., Publishers.

This is an effort, successful we should think, to smooth the passage, for both teacher and pupil, through that hard road to travel (it was so to us and we have hardly got through it yet) of learning to spell English.

**HOW TO DO BUSINESS**; a Pocket Manual of Practical Affairs, and Guide to Success in Life. Fowler and Wells, 308 Broadway, N. Y., Publishers.

A good book for young men, and one in which older heads might see the causes of failure, and learn to do better in future. Young business men, and others who have not succeeded to their minds, would do well to read it. It contains much common sense, practical instruction.

**THE WORD-BUILDER**; or National First Reader, on a plan entirely new. By RICHARD G. PARKER, A.M., and J. MADISON WATSON. Illustrated from original designs.

This is one of those modern contrivances with which the age abounds, for making learning easy to children, some of which are really good, as we believe from a cursory perusal, this is. Success to all such attempts. Any facilities that consist with thoroughness are a public good.

**THE SONG OF HIAWATHA**. By HENRY WADSWORTH LONGFELLOW. Boston: Ticknor & Fields. 1857. 40th thousand. 310 pages, 12mo.

Many products of the intellect as of the soil, spoil by keeping. Not so with this. It is as fresh and sweet as were its first sheets. Many others spoil by using; but this seems to improve as we are familiar with it. It will live as long as the legends of the original tribes, and will be admired as long as it lives.

**WHITE LIES**. A novel. By CHARLES READE, Author of "Never too Late to Mend," "Peg Woffington," "Christie Johnstone," etc. Part 1. Boston: Ticknor & Fields. 1857. In 4 parts.

The reputation of the author secured for this book high anticipations. Nor will the reading of it cause any disappointment. In this part it opens well, and is full of promise for the future.

**MEMORIES OF THE LOVES OF THE POETS**. Biographical sketches of women celebrated in ancient and modern poetry. By Mrs. JAMESON, authoress of "Diary of an Ennuyee," etc. Boston: Ticknor & Fields.

It is often a source of perplexity with the general reader of poetry to know how much to regard as truth and how much as fiction. These little volumes will be prized by such as of great value, and every reader of taste will be at least entertained and gratified by their perusal. They are beautifully executed, and should be on the center-table and the shelves of every reader and scholar.

**SCHOOL DAYS AT RUGBY**. By an Old Boy. Boston: Ticknor & Fields. 1857. 409 pages, 12mo.

"Tom Brown's school life" is full of interest, well written, full of life, recalling, by association, a thousand reminiscences in the life of many of its readers. It will be read wherever opportunity and good taste are found.

THE TESTIMONY OF THE ROCKS; OR, GEOLOGY IN ITS BEARINGS ON THE TWO THEOLOGIES, NATURAL AND REVEALED. By HUGH MILLER, etc. Boston: Gould & Lincoln. New-York: Sheldon, Blakeman & Co.

Hugh Miller requires no introduction from us. Mr. Bayne well says, in a book notice with this, that "the Duke who would come to confer distinction on Hugh Miller by taking his hand, and showing him a little countenance, would get himself simply covered with derision." Nor is it necessary to say that this book fully equals its predecessors, both in importance and in interest. No scientific scholar will voluntarily be without it, nor fail to read it. A sketch of Mr. Miller's character and death occupies some 30 pages of the volume. It is richly illustrated with 152 engravings.

SERMONS ON SPECIAL OCCASIONS. By REV. JOHN HARRIS. 1st series. Boston: Gould & Lincoln. New-York: Sheldon, Blakeman & Co. 1857. 363 pages.

These are invested with the interest peculiar to posthumous publications. The high reputation of Dr. Harris is well sustained in this volume. These sermons were delivered on various special occasions, and his numerous friends will prize this among their choicest volumes.

ESSAYS IN BIOGRAPHY AND CRITICISM. By PETER BAYNE, M.A., author of the *Christian Life, Social and Individual*, etc. 1st series. Boston: Gould & Lincoln. New-York: Sheldon, Blakeman & Co. 1857. 426 pages.

We are sometimes half inclined to censure, lest our frequent encomiums should be considered as a tribute to publishers. But when as good books are sent us as many of those we receive, we can not hesitate to praise them. And now with this volume of *Essays* before us, we are constrained to commend highly. If our opinion is worthy the attention of our readers, surely the studied and detailed criticisms of Mr. Bayne, upon a long list of the most eminent authors of the times, including De Quincey, Tennyson, Ruskin, Hugh Miller, etc., with Dickens, Thackeray, Bulwer, and Currer Bell, can not fail to be of great value, and to command general attention. Some of these essays, for we have not read them all, are intensely interesting.

THE POETICAL WORKS OF JOHN GREENLEAF WHITTIER. Boston: Ticknor & Fields. Complete in 2 volumes, 16mo.

There is no sweeter poetry than some of Mr. Whittier's, and very few authors can count more friends than he. A choice edition, like these beautiful little volumes of all his poems, will be hailed as a boon by them and by the multitude of his readers.

The author of "*The Lamp Lighter*," Miss CUMMINS, has in press, and soon to be issued, a new tale, to be published by John P. Jewett & Co. We have been favored with a perusal of some of the proof sheets, and we can assure our readers that her great reputation already achieved, will rise still higher when this book is published. It is the result of more than two years' labor, is written with almost classic elegance, and will find a ready sale wherever reputation, talent and high culture can secure a favorable reception. The name of this beautiful tale is to be MABEL VAUGHAN.

SORGHO AND IMPHEE, THE CHINESE AND AFRICAN SUGAR CANES; by H. S. Olcott, Associate Principal of the Mt. Vernon Farm School, Westchester Co., N. Y.; C. M. Saxton & Co., 14 Fulton street, publishers.

This is a forthcoming work, on a subject about which many desire to be informed. We understand it is to contain about 400 pages, and to be sold at \$1 00. From what we know of the author and his sources of information, we feel assured it will contain a large amount of valuable matter on the culture of these plants, and their uses as food for cattle, and for the manufacture of sugar, syrup, alcohol, etc. By an arrangement with the publishers we shall be able to send it for \$1 00 enclosed, prepaid to any who may order it through us.



We see by the Regulations and Premium List, that a goodly sum is to be distributed, and that the mechanics and mechanic arts are not forgotten. That is right. There is not good land enough, even in our glorious West, to make farming a good business, unless manufactures and the mechanic arts flourish, too.—Ed.

**THE SKILLFUL HOUSEWIFE'S BOOK**; a complete Guide to Domestic Cookery, Taste, Comfort and Economy, combining 659 recipes, pertaining to Household Duties, the Care of Health, Gardening, Flowers, Birds, Education of Children, etc. By Mrs. L. G. Abel, Author of "Gems by the Wayside," "Woman in her various relations," etc. Published by A. M. Saxton & Co., 140 Fulton street, New-York.

So far as we can judge of such matters, this book is judiciously executed, and contains a very large amount of practical and valuable instruction in things pertaining to the health, comfort and economy of families. Solomon, we suppose, had reference to the subject, when he said, "She looketh well to the ways of her household."

Thirty-fifth thousand on sale. We will send this book post paid to any of our subscribers on the receipt of the price, 25 cts. in paper, 50 cts. in cloth, post-paid.

#### **Ditson & Co., Boston, Mass.**

In a recent visit to Boston, we were shown over the new, beautiful and extensive publishing office and sales-rooms of these extensive dealers in music. The building was erected by them for their own exclusive use. It is 277 Washington street, is five stories high, 25 feet front, which is of granite, and nearly 100 feet deep. Their stock embraces every thing published in this country and a large quantity of foreign music, whether in sheets or volumes. The basement is exclusively devoted to the wholesale department of sheet music, and its shelves contain about 4000 cubic feet of music. Here, too, is a safe to hold 50,000 plates, and even more, if closely packed. The story above the basement is for retail. The second story is the piano-forte room. The third floor is the book room, and some judgment can be formed of the extent of the business of this house, when we state that the number of their own publications in volumes and instruction books, and such like, exceeds 400. This room contains some 200,000 volumes. On the fourth floor is the stock of printing papers, covers, books in sheets, etc. On the fifth their sheet music is printed, giving employment to twelve presses and twenty workmen. The books published by them are printed elsewhere. The amount of paper used at this establishment annually, is not less than 100,000 reams. Their publications include much standard music. They have issued several volumes of operas in score. *Il Trovatore*, that last and perhaps most beautiful, as it surely is one of the most popular of all brought out at the N. Y. Academy, has been published lately. It, like its predecessors, is executed and done up in excellent style. Nor is sacred music overlooked here. One of the recent issues of this house consists of a volume of Catholic music, called *The Memorere*, and contains the very gems of this splendid style of this divine art. The *Golden Wreath*, a collection "for schools, seminaries, select classes," etc., represents another extensive and very important department in this establishment. All these are standard works of their kind. We advise all our musical friends to avail themselves of some opportunity to look over these attractive and loaded counters.

**A NEW PHASE IN THE IRON MANUFACTURE.**—John B. Wickersham, 312 Broadway, New-York, has put out a splendidly illustrated circular of his business, of 80 pages, folio, containing, in addition to private notices, a vast amount of information on the manufacture of iron and its trade, valuable to everybody. Price by mail three 3 cent postage stamps.

### A Suggestion kindly received.

A CORRESPONDENT from the Far West says of our Magazine:—"It is to my mind defective in this—a horticultural or pomological department. Whilst I feel a deep interest in all agricultural improvements, stock growing, etc., yet it does not abate my interest in horticulture in the least. On the contrary I am increasing my orchards, fruit and ornamental garden with renewed zeal."

Just so every farmer should do, and if, in our zeal in the great and absorbing interest of agriculture at large, we have paid less attention than we ought to the hardly less important matters of the garden and the orchard, we will strive to mend our ways.—Ed.

Another correspondent says:—"I have long since expressed my humble opinion that your monthly ranked with the very best publications of this age, having been (pardon my vanity) a little proud of it, as a publication hailing from my native State, a State in which many years of my life have been employed in farming. In Ohio, the third State of this confederacy, agriculture is the great interest. As a science it has been lamentably neglected in years past, but a better day is dawning in our State. Agricultural reading, agricultural schools, and every thing pertaining to the subject is constantly progressing, and I hope the day is not far distant when Ohio shall stand foremost in every department of agriculture."

We are sorry when New-York loses such farmers as the above, but are glad when Ohio gains them.—Ed.

### How to make Water Cold without Ice.

THE following description of a method of rendering water almost as cold as ice has been going the rounds of the press for many years. Just now it is again "in season," and we copy it for the benefit of those of our readers who either have not the opportunity or the inclination to purchase ice:

Let the jar, pitcher, or vessel used for water be surrounded with one or more folds of coarse cotton, to be constantly wet. The evaporation of the water will carry off the heat from the inside and reduce it to a freezing point. In India and other tropical climes, where ice can not be procured, this is common. Let every mechanic and laborer have at his place of employment two pitchers thus provided, and with lids and covers, one to contain fresh water for drinking, the other for evaporation, and he can always have a supply of cold water in warm weather.—*Exchange*.

This should be received with some grains of allowance. If you could afford to keep the surface of the pitcher constantly wet with ether, you might even freeze the water in it. It is true also that keeping the surface wet with water, as above described, will cool the water within sensibly, if the air be dry, and evaporation consequently rapid. But in ordinary states of the atmosphere, the process is at best slow, and in a damp sultry day would be quite unsatisfactory. We have little doubt that it would be quite possible to construct a vessel in such a way that a part of the water contained in it might leak through, keep the outer surface moist, evaporate and leave such a chill upon the vessel that the water remaining in it would be so reduced in temperature, as to serve well for ice water. If we happen to think of this at another time we will suggest a mode in which we suppose it could be done, and any of our friends may try it, and, if they choose, may take out a patent, in case they succeed. Our present object is simply to illustrate a great principle, one exceedingly important to the farmer.

It is a well known fact that when ice melts it contains more heat than it did when in the condition of ice, and is yet no hotter—will raise the thermometer no higher, and feels no warmer to the hand. Again, when water evaporates—changes from water to vapor, as before from ice to water—it contains 1000 degrees additional heat,

and yet is no warmer as judged of by the thermometer, or by the senses. What was before sensible heat becomes insensible, or latent. Now, when water evaporates, it takes this thousand degrees of latent heat from the nearest objects. Dip your finger in ether, and then hold it in a current of air, and it will feel very cold, by reason of the natural warmth being drawn from your finger to supply latent heat to the evaporating ether. If you dip it in water, the same effect will follow, only in a less degree. That is, whenever a liquid evaporates, it steals away the heat necessary to maintain it in the state of vapor from the body from which it evaporates, whether that body be the surface of a pitcher, or the surface of our bodies, or of the earth.

If we are understood, it now appears why a soil from which the redundant water passes freely through a porous subsoil into the deep earth, or in the lack of a porous subsoil, runs freely through well laid drains, is many degrees warmer and the crop several weeks earlier than happens in a soil from which the redundant water passes by evaporation into the air.

### An Old Absurdity.

"WE find the following old absurdity in a well written article by Mr. Nash, of New-York, in the last No. of the *Plough, Loom and Anvil*:

"We are told by the philosophers that since the creation the remains of the human family alone would cover the land on the globe more than a foot deep of soil."

"Take the most populous country on the globe—say Belgium—with a population of 345 to the square mile, and suppose every day of the six thousand years since creation had produced a generation equal to the present, the whole crowd could stand on a square mile, and each have room to kick his neighbor off his premises."

*Remarks.*—We cut the above from *Life in the West*, an able and spirited little paper, published at Sigourney, Iowa. Our readers will perceive, if they look at the initials, that we were not the writer of that article. It was handed us by a namesake of ours, who probably descended from Julius Cæsar, as we suppose we have, though we can not trace our ancestry to that source with absolute certainty, and who may have had nearer ancestors in common with us, possible the famous Beau Nash, who used to figure as master of ceremonies in somebody's (we forgot whose) court. It is also quite probable that we are both cousins of that John Nash who used to play the fool with poor old George the Third, or some of his progeny, (our memory is bad again,) as the king's architect, and who contrived to get money enough out of him to build himself a splendid mansion near Osborn House, in the Isle of Wight, which we had the pleasure of visiting a few years ago, and that notwithstanding that he seems to have been a rogue and we are honest men. But be all this as it may, the article was a good one, and we are proud of having published it from the pen of a relative, one who has undoubtedly a common origin with us somewhere a great way this side of father Adam.

We fully agree with the editor of *Life in the West*, that the article is a "well written one;" and we agree with him further, that our friend has not at all committed himself to "An old Absurdity," but has only said, "We are told by the philosophers," etc. The article in question abounds in facts of great value and importance to the farmers of this country. If any of the philosophical deductions it contains are not perfectly accurate, or if allusion is made to speculative errors of "the philosophers," without correcting them, we regard that as of very little consequence. But our friend is undoubtedly able to defend any statement he has made, and we leave it with him. For ourselves, we do not believe that all the humanity that has died for the last six thousand years would make a foot, nor half a foot, nor a quarter of an inch of soil over all the land on the globe. "The philosophers" are certainly mistaken. But how is it with our Iowa brother of the pen? He should consider that a



generation of 345 a day would make 126,011 in a year, and 756,067,500 in six thousand years. Now it is said that Xerxes had an army of five millions, men, women, children, scullions, and all the rest. We don't believe it was more than half as large; even allowing two hangers on for every man that could not or would not fight. But if there were 5,000,000, including the rag-shag and bob-tail, what then? 756,067,500 men would make 151 such armies, and leave 1,067,500 men to be kicked out as unarmy-worthy. Does our Western friend think they could all stand on a square mile, and leave a wide berth for the lower extremities to play in? We doubt whether he could stick as many pins in a square mile, though we have made no calculations. Will some of our children readers answer the following questions, and send us the figures. If their elder brothers and sisters should help them a little, no matter.

1st. If each man occupies only one square foot, and that would be close enough to prevent any far-fetched kicks, how much land would be required for 756,067,500 men to stand upon? The answer may be in miles, acres, rods and feet.

2d. How many pins could be stuck in a square mile, allowing that each pin, including the head, was one twentieth of an inch in diameter, or in other words, allowing each pin to occupy a square one twentieth of an inch each way, which would give 400 pins to the square inch?

These are not very difficult questions. Let us have an answer. No matter if we have more than one, as it would be a good exercise for the children to write a handsome letter, and such is our interest in children that we should not tire of reading them.

### Maine State Fair.

This Fair is to be held in Bangor on September 29th and 30th and October 1st and 2d. The programme for the several days is generally announced as follows: On Tuesday, the several committees will call upon the Trustees in session at the City Hall, and fill any vacancy that may exist, and proceed to the examination of the departments entrusted to them, and make their decisions. On Wednesday there will be a drawing match for horses and oxen, a trial of speed for horses, and in the evening a meeting of the Pomological Society. On Thursday there will be a ploughing match at 1 o'clock, a trial of speed of horses at 10 o'clock, ladies riding at 2 o'clock, and another trial of horses at 4 o'clock. On Friday, the premium stock will be discharged after being ranged and led round the course; then another trial of speed, sale of stock, etc.

About these lady riders we say to our Maine friends in all earnestness;—if you can turn out from 150 to 300 ladies, well skilled in horsemanship, ladies of unquestioned respectability, your own wives and daughters, not professional circus women, or men in woman's clothing from town; if you can furnish as many well trained horses, safe and suitable for ladies to ride on a public occasion; if you can furnish the ladies a separate enclosure, where they can mount according to their own notions of convenience and propriety, and give their horses a trial before making their debut on the show ground, we advise you to let them ride by all means. Our females need invigorating exercise. It should be encouraged; and nothing is more exhilarating, invigorating, than riding horseback. But if you can only persuade half a dozen of them to compete with as many girls or boys in skirts from the city, and especially if you have not perfect preparations for the game, don't try it. We advise no lady to take the staring, unless as many as a hundred and fifty will agree beforehand to divide it with her.—Ed.

### Strawberries.

We have received from Wm. R. Prince, Flushing, L. I., his Descriptive Catalogue of Strawberries, embracing upwards of one hundred varieties, among which we notice Peabody's Seedling.

State Fairs for 1857.

Ohio.....	Cincinnati.....	September 14—18.
Canada East.....	Montreal.....	September 16—18.
Illinois.....	Peoria.....	September 21—26.
Pennsylvania.....	.....	Sep. 29, to Oct. 2.
Vermont.....	Montpelier.....	Sep. 8, 9, 10, and 11.
Wisconsin.....	Janesville.....	Sep. 29, to Oct. 2.
Michigan.....	Detroit.....	Sep. 29, to Oct. 2.
New-Jersey.....	New-Brunswick.....	Sep. 29, to Oct. 2.
Maine.....	Bangor.....	Sep. 29, to Oct. 1.
California.....	Stockton.....	Sep. 29, to Oct. 2.
Canada West.....	Brantford.....	Sep. 29, to Oct. 2.
United States.....	Louisville, Ky.....	October 1—6.
Indiana.....	Indianapolis.....	October 4—10.
New-York.....	Buffalo.....	October 6—9.
Iowa.....	Muscatine.....	October 6—9.
New-Hampshire.....	Concord.....	October 7—9.
Kentucky.....	Henderson.....	October 13—16.
Connecticut.....	Bridgeport.....	October 13—16.
East Tennessee.....	Knoxville.....	October 20—23.
Massachusetts.....	Boston.....	October 21—24.
Maryland.....	Baltimore.....	October 21—25.
West Tennessee.....	Jackson.....	October 27—30.
Virginia.....	.....	October 28—31.
Tennessee.....	Nashville.....	October 12—17.
Alabama.....	Montgomery.....	October 27—30.

NEW-YORK CATTLE MARKET.

AUGUST 26, 1857.

BEEVES are sold by the estimated dead weight of the four quarters; the so-called "fifth quarter" (hide and tallow) is not reckoned in here as it is in Boston and some other cities. When cattle are weighed or estimated alive, the dead weight is reckoned at a certain number of pounds to the 100 lbs. of live weight, as agreed upon. The general rule in this market for medium cattle is 56 lbs. to the 100; 44 lbs. being allowed for the "fifth quarter" and offal.

The average prices to-day, as compared with last week, are about 1 cent higher.—*N. Y. Times.*

MILCH COWS WITH CALVES.—Not unfrequently a cow is sold at \$90 to \$100, or even \$120. The general price throughout the year for ordinary cows is \$30 to \$40 or \$50. Quite a number sell above \$50, and more, perhaps, below \$30. We often see apologies for cows go at \$20 to \$25. Market fully supplied and sales slow.

VEAL CALVES.—Veal Calves are sold by live weight, each animal being weighed alive at the time of sale. "Bobs"—that is, Calves a few days old—are usually sold by the head at such prices as can be agreed upon, sometimes for but little more than the skin is worth. Prices of calves having less or more experience of life, from 6 to 8 cents the lb., live weight.

SHEEP AND LAMBS.—These are chiefly sold at Allerton's, Browning's, and Chamberlin's, at so much per head for a particular lot of Sheep or Lambs, or of the two together. They are also frequently sold by live weight, as this is readily ascertained. The actual prices at the different yards seldom vary greatly. The difference in reputed prices is generally due to variation in the quality. When they are sold by weight, it is usually the net weight, which is ordinarily one-half what they weigh when alive, the pelt and offal making the other half. If fat and small-boned, they will dress 55 lbs., and in some cases 60 lbs., per hundred. The average run is about one-half the live weight. The receipts for the past week have reached a higher figure than for a long time previous. A very large proportion of these were lambs. Many of them light and thin. The market is at present overstocked and some sell at low prices. Sheep in good condition sell at 9 to 10½ cents per lb. dressed weight, and 8 to 12½ cents per lb. for lambs.

SWINE.—These are sold alive at so much per lb., gross or live weight. Supply past week not quite equal to the demand. Corn-fed hogs from 8 to 8½ cents per lb. Distillery-fed 8 cents. Not half difference enough. Who, that knows what he is about, would not wish the pork steak for his breakfast to be out of the farmer's corn-fed hog? Stock hogs, 7½ to 7¼.

# SUPER PHOSPHATE OF LIME MANURE.

## C. B. DE BURG

Has the pleasure of announcing to his former patrons and other farmers who may wish to improve their Soils, that he has during the past year succeeded in manufacturing from the Gas Works around the city, a superior quality of Sulphate of "Ammonia," in large quantities, and he is now prepared to furnish

### C. B. De Burg's Super Phosphate of Lime,

highly charged with "Ammonia," which, from experiments made by scrupulous experimenters, is now acknowledged to be the most valuable element in all kinds of Organic and Artificial Fertilizers. Public State Agricultural Societies, and distinguished Farmers tried many experiments the past season with his preparation side by side of Peruvian Guano and other concentrated Manures, with universal success—detailed accounts of these will shortly be placed before the public for examination. The proprietor is working for future and lasting reputation, and begs to assure his friends that he will spare no pains or efforts to make every package of "Super Phosphate" bearing his name, just what it purports to be.

To avoid imposition or deception being practised, henceforth all packages will be distinctly marked, "C. B. De Burg's No. 1, Super Phosphate of Lime."

Pamphlets, with instructions for use, etc., will be forwarded on application to

C. B. DE BURG, SOLE PROPRIETOR,

WILLIAMSBURGH, LONG ISLAND, NEW-YORK.



## SALAMANDER SAFE.

TILTON & McFARLAND,

26 CEDAR STREET, NEW-YORK,

OFFER THEIR

### FIRE AND BURGLAR PROOF SAFES

To the public, as superior to any manufactured in the world, either for FIRE OR BURGLAR PROOF qualities; and are warranted entirely FREE FROM DAMPNESS, which is not the case with many others manufactured here. Of the thousands sold by us, in not one of the many that have been tested in actual fires of the most intense heat, have the

#### BOOKS OR PAPERS SUFFERED THE LEAST!

Nor have Burglars, after repeated attempts, ever been able to pick our POWER AND BURGLAR PROOF LOCKS. These Safes have the precedence in the Government Offices at Washington, and are introduced in preference to others in the Patent Office, for the safe deposit of Government Jewels.

Purchasers are invited to call, examine, and compare prices and qualities with other manufacturers'.

26 CEDAR STREET, New-York.

14 HOWARD ST., Boston, Mass.

18 EXCHANGE ST., Portland, Me.

145 PLATT ST., Baltimore, Md.

69 MARKET ST., Nashville, Tenn.

90 BATTERY ST., San Francisco, Cal.

## LYON'S KATHAIRON

Has now become the standard preparation for the HAIR. Its immense sale, nearly ONE MILLION BOTTLES per year, attests its excellence and great superiority over all other articles of the kind. The ladies universally pronounce the Kathairon to be, by far, the finest and most agreeable article they ever used. It RESTORES the Hair after it has fallen out; INVIGORATES and BEAUTIFIES it, giving to it a rich, glossy appearance, and imparts a *delightful perfume*. Sold by all dealers throughout the United States, Canada, Mexico, Cuba, and South America, at 25 Cents per bottle.

HEATH, WYNKOOP & Co., Proprietors,

63 Liberty Street, New-York.

Manufacturers, also, of Perfumery of all kinds, and in great variety





# Doctor Hooffland's Celebrated German Bitters,

PREPARED BY Dr. C. M. JACKSON, PHILADELPHIA, Pa.,

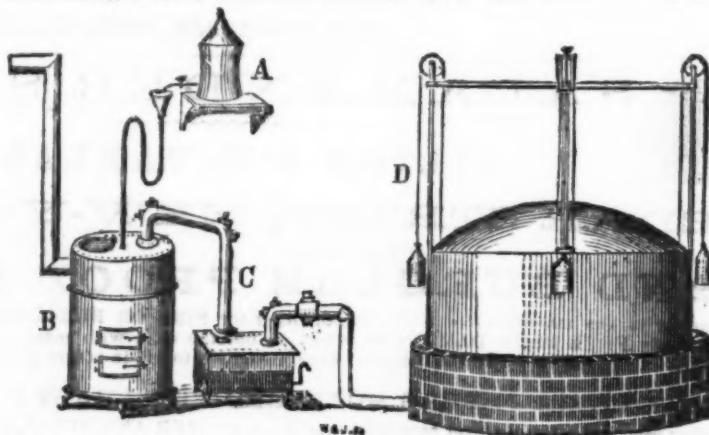
*Will effectually cure Liver Complaint, Dyspepsia, Jaundice, Chronic or Nervous Debility, Diseases of the Kidneys, and all Diseases arising from a disordered Liver or Stomach—such as*

*Constipation, Inward Piles, Fullness or Blood to the Head, Acidity of the Stomach, Nausea, Heartburn, Disgust for Food, Fullness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the Pit of the Stomach, Swimming of the Head, Hurried and Difficult Breathing, Fluttering at the Heart, Choking or Suffocating Sensations when in a Lying Posture, Dimness of Vision, Dots of Webs before the Sight, Fever and Dull Pain in the Head, Deficiency of Perspiration, Yellowness of the Skin and Eyes, Pain in the Side, Back, Chest, Limbs, &c., Sudden Flushes of Heat, Burning in the Flesh, Constant Imaginings of Evil, and great Depression of Spirits.*

The proprietor, in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new and untried article, but one that has stood the test of a ten years' trial before the people; and its reputation and sale are unrivaled by any similar preparations extant. The testimony in its favor, given by the most prominent and well-known Physicians and individuals in the country, is immense, and a careful perusal of the Almanac published annually by the proprietor, and to be had gratis of any of his agents, can not but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory, No. 96 ARCH STREET, Philadelphia, Pa. Sold by Druggists and Storekeepers in every town and village in the United States and Canada, at 7 cents per bottle. [Oct 56]



A, Tin Can, containing Rosin-Oil. B, Gas-Generator. C, Retort-Box. D, Gasometer

## GAS APPARATUS,

After the Patent of the Maryland Portable Gas Company.

C. R. WOODWORTH & CO. are now offering for sale a most complete, cheap, simple, and efficient Gas Machine, adapted, in all respects, to the wants of Private Dwellings, Public and Private Schools, Churches, Colleges, Factories, Hotels, Watering-Places, &c., as well as of Towns and Villages. Prices for an ordinary dwelling from \$350 upward. Details will be furnished by applying to

ap.11y]

C. WOODWORTH & CO., No. 74 Wall Street, N. Y.

## H. N. BURROUGHS,

No. 48 SOUTH FOURTH ST., Philadelphia,

PROPRIETOR OF THE

PORTAGE IRON WORKS,

BLAIR COUNTY, PA. Orders received for all kinds of

## LARGE BAR IRON AND NAILS,

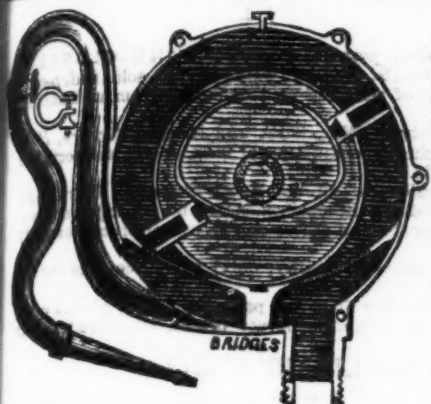
Manufactured at the above Iron Works. Also, orders received for

## SEMI-BITUMINOUS COAL,

mar5716aj

From the BARNET MINES, Broad Top Mountain, Pa.

# A. W. CARY'S ROTARY FIRE-ENGINE PUMPS.



THE Inventor, after thoroughly testing this engine pump, for the past two years, feels confident that it is not equalled by any thing now in market, in the way of raising or forcing water; the motion being rotary, the stream is constant, without the aid of an air vessel. The packing is self-adjusting, very durable, and can not well get out of order.

These pumps are well calculated for all the purposes for which pumps or hydrants may be used, viz., Factories, Steamboats, Tanneries, Breweries, Distilleries, Railroads, Water Stations, Hotels, Mines, Garden Engines, &c.

Among the many testimonials given of this pump, is a gold medal awarded at the last great Fair of the American Institute.

No. 1 is a house or well pump and domestic Fire Engine, and will raise from 20 to 30 gallons per minute.

No. 2 will raise 100 gallons at 120 revolutions.

No. 2 1/2 " 200 " 120 "

No. 3 " 300 " 120 "

The quantity raised can be doubled, by doubling the revolutions. These machines are manufactured and sold by the subscribers at Brockport, N. Y.; also in this city, 240 Broadway.

Sept. 18-ly.

CARY & BRAINERD.

## WILLIS' IMPROVED STUMP MACHINE

PATENTED MARCH 6, 1855.

*Farmers, Mechanics, Road Builders, Speculators, and all progressive men, your attention is called to this Valuable Patent.*

My Stump Machine has great power. It has no equal. It is simple in its construction, easily worked, and not liable to get out of repair. Its common weight is about 1500 lbs. It is easily borne from place to place, and it can be loaded in three minutes, and unloaded, set up, and a lusty stump drawn, all within fifteen minutes. Once fastened, it will pull an acre and a half of stumps without changing anchorage. A single yoke of cattle, or one strong horse, is sufficient to work it. With such a team, if necessary, a power of from three to five hundred tons can be made to bear upon a single stump!

One man can work it, though two work it at a better advantage. The time required to extract stumps from six inches to four feet in diameter, will vary from two to ten

minutes. With this Machine, standing trees may be taken out, large rocks removed from their beds; and it is the best Machine ever invented, not only for pulling stumps, but for moving buildings and other heavy bodies. All the iron used is wrought, of peculiar quality, imported, sustaining 57 tons to the inch!

The price of these Machines varies according to weight and size. I will furnish the Machine at my Manufactory, together with an individual right to work it, for \$200. I reside at Orange, Massachusetts, where I manufacture this article, on a large scale, and hold myself ready to furnish it, or sell rights to use it, in any State or town in the Union, now unsold, on terms most reasonable.

This patent begins to be appreciated; all who wish to bring so good a thing into use, and thereby make "a pile of money," should come to Orange, see the inventor, see the working of the Machine with their own eyes, and if not perfectly satisfied respecting its merits, all their expenses shall be cheerfully paid.

WILLIAM W. WILLIS.

REFERENCES.—New-England Agricultural Journals; Gov. Brown; Prof. Nash; Nourse & Co.; Country Gentleman, Albany; Rural and Farmer, Rochester, N. Y.; Agricultural Journals in Ohio and Michigan.

June, 1855.

## STEVENS'

### Celebrated Patent Broad-Cast and Drill Seed-Sower,

For Wheat, Rye, Oats, Barley, Buckwheat, Hemp, Flax, Cotton, and Rice; also, all kinds of Grass-Seeds, together with Guano, Lime, Plaster, Bone-Dust, and Ashes; Corn, Peas, and Beans, when not planted in hill.

So simple and cheap an agricultural implement, it is believed, has never before been offered to the public.

The great amount of labor, and the large per centage of seed saved by the use of this machine, make it for the interest of every farmer, of however limited means, to own one.

There being no valves to clog, or machinery of any kind to look after, the cheapest of help can operate it with facility.

A hand-machine, costing only \$35, will sow from twelve to fifteen acres daily; larger machines, using one or more horses, will sow from fifty to one hundred acres daily, and do the work in such manner, that the same quantity of seed will lie upon each square foot, rod, or acre of soil.

For further information, or rights to manufacture and use, address

WM. S. SAMPSON, Proprietor, Boston, Mass.

# GREAT AND UNUSUAL INDUCEMENTS.

25 PER CENT. DISCOUNT

In first-class engravings will be made, until further notice, on all *cash purchases* of LOOKING-GLASSES, PICTURE-FRAMES, ENGRAVINGS, ARTISTS' MATERIALS, &c., &c., which will be sold, *independently of the deduction*, at the LOWEST MARKET PRICES, and the privilege of selecting said deduction from an immense Stock and great variety of Fine Engravings, given to each purchaser.

In our LOOKING-GLASS DEPARTMENT may be had every variety of *Pier, Wall, and Mantel Mirrors, Portrait and Picture Frames, Cornices, Bases, &c.*, of our own exclusive manufacture, from choice and original designs, not elsewhere to be obtained, and of superior quality and style.

In our FINE ART DEPARTMENT will be found first-class impressions of all the finest European Engravings, together with a general assortment of all desirable publications. Proofs, in the earliest states, of all important engravings, exhibited in advance of publication abroad, from which the trade and others can give their orders for early impressions.

In our ARTISTS' MATERIAL DEPARTMENT will be found (of superior quality, only) every requisite for the Artist, Amateur, or Pupil.

The usual discount to the Trade and Schools. Orders by letter carefully filled and packed with the utmost care. To the economist, and all desirous of obtaining superior quality articles, at moderate prices, the above presents unusual advantages.

WILLIAMS, STEVENS, WILLIAMS & CO.,

353 Broadway, N. Y.

THE GEM OF THE MONTHLIES—FOR LADIES & GENTLEMEN.



CONTAINS SPLENDID STEEL ENGRAVINGS—BEAUTIFUL COLORED STEEL FASHIONS—FINE WOOD ILLUSTRATIONS—HANDSOME PATTERNS FOR ALL KINDS OF NEEDLEWORK. THE BEST & MOST POPULAR WRITERS ARE ITS CONTRIBUTORS. Terms, \$2 a year. Three Copies, \$4. Single Copies, 25 cents.

THE GEM OF THE MONTHLIES—FOR LADIES & GENTLEMEN.



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# GREEN SAND MARL, OF NEW-JERSEY.

THE NEW-JERSEY FERTILIZER COMPANY is now prepared to receive orders for this important Manure. For all lands upon which ashes are beneficial, the Marl is more than a substitute. Prof. COOK, in his Annual Report to the Legislature, says: "The value of these Marls is best seen in the rich and highly cultivated district which has been improved, *almost made*, by their use; but it may be interesting to examine the causes of their great value in Agriculture, and to compare them with other Fertilizers."

"For example: the potash alone may be taken at an average as five per cent. of the whole weight of the Marl—a bushel, when dry, weighs eighty pounds, and in the proportion mentioned would contain four pounds of potash; this is nearly as much as there is in a bushel of *unleached Wood Ashes*," &c. Again: "It is probable that the great value of the Marl is to be found in the fact, *that it contains nearly all the substances necessary to make up the Ash of our common cultivated plants.*"

Price, delivered on board vessel, at the wharves of the Company, at Portland Heights, N. J., SEVEN CENTS PER BUSHEL.

For further particulars, see Circular, sent free of postage. Orders for other Fertilizers will receive prompt attention. Address either of the undersigned.

CHAS. SEARS, Prest., Riceville, New-Jersey.

TAPPEN TOWNSEND, Treas., No. 82 Nassau St., New-York

GEO. W. ATWOOD, Sec'y, 16 Cedar St. New-York

Oct. 1y.



**WM. R. PRINCE & CO.,  
FLUSHING, N. Y.,**

OFFER SELECT COLLECTIONS OF TREES AND PLANTS, unrivalled in the extent of every Department, with *Rejected Lists of Inferior Fruits*, many of which are still cultivated elsewhere.

Their Descriptive Catalogues comprise every variety worthy of culture, and are sent gratis to those who inclose stamps.

No. 1. Fruit and Ornamental Trees, Shrubs, and Plants.  
No. 2. Roses, Carnations, Chrysanthemums, Phlox, Iris, and all other flowering Plants.

No. 4. Wholesale Catalogues for Nurseries and Dealers.

No. 6. Strawberries—descriptions of 105 select varieties.

No. 9. Bulbous Flowers of every class, including 250 varieties of Peonies, Dahlias, and other Plants.

No. 11. Treatise on Chinese Potato, with reduced prices.

All the Trees and Plants are of the first quality, and will be supplied at the lowest rate. 1t.

**TO NURSERYMEN.**

**STOCKS AND SEEDLINGS.**

WE BEG TO ANNOUNCE TO THE TRADE THAT we are able to supply the following in large quantities—namely:

MAZZARD CHERRY Seedlings.....	1 year.
APPLE Seedlings.....	2 "
QUINCE from Cuttings.....	1 "
HORSE CHESTNUTS.....	1, 2 & 3 "
ELM, AMERICAN.....	2 & 3 "
BLACK WALNUT and BUTTERNUT.....	3 "
MAPLE, Silver and Scarlet.....	2 & 3 "
MAPLE, Sugar.....	1 "
MAGNOLIA, Acuminata.....	2 & 3 "
MOUNTAIN ASH, European.....	1 "
LABURNUMS.....	2 "
OAKS, Red and White.....	3 "

And many other articles, for which see other advertisement, and Catalogues, descriptive and wholesale, which we sent gratis to all who apply and inclose stamps to prepay postage.

**ELLWANGER & BARRY,**

1t. MOUNT HOPE NURSERIES, Rochester, N. Y.

**SMALL FRUITS:**

Strawberries, Raspberries, Currants, &c.

WE SOLICIT THE ATTENTION OF NURSERYMEN, Dealers, and Amateur Fruit-Growers, to our collection of the above Fruits, the most extensive in quantity and variety ever offered in this country.

STRAWBERRIES—Upwards of 60 varieties, all fruited and tested on our own grounds—including the Hooker, Brighton Pine, Jenny Lind, Genesee, and all the best American sorts, and Triomphe de Gand, Trollope's Victoria, and all the best Foreign varieties.

RASPBERRIES—All the popular varieties, including the range, the best and most beautiful of its color. Also the superb new Autumnal, or Everbearing sorts; Merville, Quatre Saisons, and Belle de Fontenay.

CURRENTS—Upwards of 20 varieties, including those superb sorts—Cherry, White Grape, Victoria, Prince Albert, &c., &c.

GOOSEBERRIES—A large assortment of the best English sorts, and the American Seedling, which bears immense crops and is always free from mildew.

BLACKBERRIES—New-Rochelle or Lawton, and High Bush or Dorchester.

We solicit orders for the above and all other Nursery articles, and pledge ourselves to give them our best attention.

The following Catalogues will be sent gratis to all who apply and inclose stamps to prepay postage:

No. 1. A Descriptive Catalogue of Fruits.

No. 2. A Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c.

No. 3. A Catalogue of Dahlias, Verbenas, Petunias, and new and select Green-House and Bedding Plants, published every spring.

No. 4. A Wholesale Catalogue for Nurserymen, Dealers, and others who purchase extensively.

See other advertisement.

**ELLWANGER & BARRY,**

1t. MOUNT HOPE NURSERIES, Rochester, N. Y.

**NEW AND RARE ORNAMENTAL TREES.**

MESSRS. ELLWANGER & BARRY SOLICIT THE attention of gentlemen who are interested in new and rare Ornamental Trees to the following—namely:

KILMARNOCK WEeping WILLOW, with pendulous brown branches and large, glossy leaves—an elegant tree.

AMERICAN WEeping WILLOW—A beautiful small tree, with a profusion of light, graceful, drooping branches, and small, silvery green foliage.

ROSEMARY-LEAVED WILLOW—A very striking tree, with feathery branches and bright, silvery foliage.

WEeping POPLAR—A remarkably graceful tree. The tremulous foliage and drooping habit combined are quite expressive.

CUT-LEAVED WEeping BIRCH—No other tree possesses, in every particular, so much of lightness and elegance as this.

PURPLE-LEAVED SYCAMORE—A very striking tree, having large, rich purple foliage.

AUCUBA-LEAVED ASH—Quite a novelty, having the leaves all profusely sprinkled with golden blotches.

GOLD-STRIPED WEeping ASH—A variety of the common Weeping Ash, with golden stripes and blotches on both foliage and branches.

ELMS, PURPLE-LEAVED, NETTLE-LEAVED, PYRAMIDAL, HUNTINGDON, and several other remarkable and beautiful species and varieties.

These are but a few of the many rare and fine trees which E. & B. now offer. In new and rare Shrubs, Roses, Peonies, Phloxes, and other popular classes of plants, their collection is equally rich.

For particulars they must refer to the following Catalogues, which will be sent prepaid to all who inclose one stamp for each: No. 1. Fruits; No. 2. Ornamental Trees; No. 3. Green-House and Bedding Plants, Dahlias, &c.; No. 4. Wholesale.

1t. MT. HOPE NURSERIES, Rochester, N. Y.

**FRUIT AND ORNAMENTAL TREES,**

For Autumn of 1857.

ELLWANGER & BARRY BEG TO ANNOUNCE that they offer for the ensuing Fall Trade their usual extensive stock of nursery articles, embracing—

STANDARD AND DWARF FRUIT TREES of all kinds.

SMALL FRUITS, embracing the finest Currants, Gooseberries, Raspberries, Blackberries, Strawberries, &c., &c.

NUTS, including Walnuts, Filberts, Chestnuts, &c.

RHUBARB Linnaeus, Victoria, &c., all the best.

GIANT ASPARAGUS, &c., &c.

DECIDUOUS ORNAMENTAL TREES, for streets, parks, lawns, cemeteries, &c.

WEeping TREES—a great collection.

EVERGREEN TREES, including upwards of half a million of Norway Spruce, of all sizes, and a large stock of the gigantic WASHINGTONIA, and other California trees.

FLOWERING SHRUBS, Roses, Green-House, Border, and Bedding Plants, Hedging, Stocks and Seedlings of all sorts, &c., &c.

Nurserymen, &c., dealt with on the most liberal terms, and amateurs' orders attended to with the greatest care. Packing done in the most thorough and skillful manner, and with the best materials.

For full particulars, we refer to special advertisements, and to the following Catalogues, sent gratis to all who apply and inclose a stamp for each:

No. 1. Descriptive Catalogue of Fruits.

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No. 5. Supplemental Catalogue of Fruits.

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**PHENIX BAG FACTORY,**

No. 3 Canal Street,

Two doors from Centre,

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GRAIN, FLOUR, FEED, MEAL, BUCKWHEAT, HOMMONY, SALT, HAM, GUANO, SEAMLESS, and all other kinds of Bags made and printed to order with the utmost dispatch.

**G. WOODWORTH & SON.**

Orders received by D. A. WOODWORTH.

# The American Fertilizing Company,

Having purchased of Professor Charles Stearns, a patent granted by the United States Patent Office, on the 3d of March, 1857, are now prepared to furnish to Agriculturists their highly CONCENTRATED, NITROGENIZED, and AMMONIATED GREEN SAND MARL FERTILIZERS, being the cheapest and most enduring Fertilizer, and the only Fertiliser containing all the alkaline salts and soluble silicates so essential in the estimate of De Berg, and his compeers in chemistry, as a perfect Fertilizer.

The Company are largely interested in Guano Island, and can at all times furnish their customers of their own Columbian, Peruvian, and Mexican Guano, at their cash value, and at the lowest market prices.

**SUPER-PHOSPHATE of LIME**, of their own manufacture, from unburned bones, manufactured by a chemist from London, who has spent his life in acquiring a perfect knowledge of his business. For particulars, apply at the office of the Company,

april-14.]

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Assignments recorded at Washington, and all legal papers pertaining to Patents executed with care and promptness.

Sales of good Patents negotiated on reasonable terms.

Inventors stuck with good inventions will be assisted, and Patents secured on shares.

N. B.—Persons wishing to secure Patents will please send for Circular.

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335 Broadway, (Room 2,) New-York City.

## BALTIMORE AND OHIO RAILROAD.

PASSENGER TRAINS leave Baltimore as follows:

Accommodation, stopping over night at Cumberland, at 7 A. M.

Mail, for Wheeling, 8.30 A. M.

Accommodation for Fredricksburg, 4 P. M.  
Express for Wheeling, 7 P. M.

TRAINS FOR BALTIMORE leave as follows:

Mail leaves Wheeling at 8.30 A. M.

Express leaves Wheeling at 4.40 P. M.

Accommodation leaves Cumberland for Baltimore, at 9 A. M.

Accommodation leaves Frederick for Baltimore, at 9.15 A. M.

### WASHINGTON BRANCH.

PASSENGER TRAINS leave Camden Station for Washington, 4.15, 8, and 5.15 P. M.

Leave Washington for Baltimore, at 6 and 6.30 A. M., and 3 and 4.20 P. M.

Tonnage Trains  
Leave Baltimore, (Mount Clare Junction) at 4.30 A. M., and Washington at 11.10 A. M.

## PHILADELPHIA AND BALTIMORE LINES.

PHILADELPHIA, WILMINGTON AND BALTIMORE RAILROAD. On and after MONDAY, December 1st, 1856, PASSENGER TRAINS LEAVE PHILADELPHIA FOR

Baltimore at 8 A. M., 1 P. M. (Express), and 11 P. M.  
Wilmington at 8 A. M., 1, 4.15, and 11 P. M.  
New-Castle at 8 A. M., and 1 and 4.15 P. M.  
Middletown at 8 A. M., and 4.15 P. M.  
Dover at 8 A. M., and 4.15 P. M.  
Seaford at 8 A. M., and 3.30 P. M.

### TRAINS FOR PHILADELPHIA LEAVE

Baltimore at 8.40 (Express), 11 A. M., and 6.45 P. M.  
Wilmington at 7.10 and 11.45 A. M., 2.38 and 10.10 P. M.  
New-Castle at 7.30 and 11.08 A. M., and 9.20 P. M.  
Middletown at 10.00 A. M., and 8.19 P. M.  
Dover at 8.50 A. M., and 7.10 P. M.  
Seaford at 7 A. M., and 4.10 P. M.

### TRAINS FOR BALTIMORE LEAVE

Wilmington at 9.15 A. M., 9 P. M., and 12.17 A. M.

BALTIMORE and HAVRE-DE-GRAVE ACCOMMODATION TRAIN LEAVES  
Havre-de-Grace at 7.05 P. M.  
Baltimore at 4.15 P. M.

### FREIGHT TRAINS, WITH PASSENGER CAR ATTACHED, LEAVE

Philadelphia for Perryville and intermediate places at 6.00 P. M.  
Wilmington for Perryville and intermediate places at 8.10 P. M.

S. M. FELTON, President.

## FOR BOSTON, VIA NEWPORT AND FALL RIVER.

By the splendid and superior steamers **METROPOLIS**, **EMPIRE STATE** and **BAY STATE**, of great strength and speed, particularly adapted to the navigation of Long Island Sound, running in connection with the Fall River and Old Colony Railroad, a distance of 53 miles to Boston only.

Leave Pier No. 3 N. R., near the Battery.

The steamer **BAY STATE**, Capt. Jewett, on Mondays, Wednesdays, and Fridays, at 5 o'clock P.M., touching at Newport each way.

The Steamer **METROPOLIS**, Capt. Brown, leave New York on Tuesdays, Thursdays, and Saturdays, at 5 o'clock P.M., touching at Newport each way.

These steamers are fitted with commodious state rooms and every arrangement for the security and comfort of the passengers, who are afforded by this route a night's rest on board, and, on arrival at Fall River, proceed per Steamboat train, reaching Boston early on the following morning, or may remain on board, and take the accommodation train at 6½ A.M., and reach Boston about 8½ A.M.

A baggage master is attached to each steamer, who receives and tickets the baggage, and accompanies the same to its destination.

A steamer runs in connection with this line between Fall River and Providence daily, except Sundays.

Freight to Boston is forwarded through with great despatch by an Express Freight Train, etc., etc.

For Freight or passage apply on board, or at the office on Pier 3 N. R., where state-rooms and berths may be secured. Hereafter no rooms will be regarded as secured to any applicant until the same shall have been paid for. For further information, apply to

**WILLIAM BORDEN**, Agent, 70 & 71 West st.

## THE UNITED STATES

SELF-GENERATING

## GAS LIGHT COMPANY

Are selling Patent Rights for Towns, Villages, Cities, and Counties, for their

## BRILLIANT, PORTABLE, SAFETY GAS LAMPS.

THE BEST INVENTION KNOWN FOR ARTIFICIAL LIGHT, AND ONE OF THE MOST USEFUL INVENTIONS OF THE AGE.

Office, 329 Broadway, New-York.

**SOLOMON ANDREWS**, Sec'y.

July 17.

## HARLEM RAILROAD—SUMMER ARRANGEMENTS.

7: 30 A.M.—Croton Falls train, stopping at all stations.

7: 45 A.M.—Williamsbridge, stopping at all stations.

9: 30 A.M.—Albany Ex. Mail, all stations above Croton Falls.

11: 00 A.M.—Williamsbridge, stopping at all stations.

11: 30 A.M.—White Plains, stopping at all stations.

12: 30 P.M.—Williamsbridge, stopping at all stations.

3: 30 P.M.—Millerton, stopping at all stations.

5: 00 P.M.—Croton Falls, stopping at all stations.

5: 30 P.M.—Williamsbridge, stopping at all stations.

6: 15 P.M.—White Plains, stopping at all stations.

8: 00 P.M.—Williamsbridge, stopping at all stations.

The trains marked thus \* start from the Twenty-sixth street Passenger Depot; the others from the Depot corner of White and Center streets.

## NEW YORK AND ERIE RAILROAD.

On and after **MONDAY**, June 15, 1857, and until further notice, Passenger Trains will leave Pier foot of Duane street, as follows, viz.:

**DUNKIRK EXPRESS**, at 6.00 A.M., for Dunkirk.

**BUFFALO EXPRESS**, at 6.00 A.M., for Buffalo.

Mail, at 9.00 A.M., for Dunkirk and Buffalo and intermediate stations.

**ROCKLAND PASSENGER**, at 3.30 P.M., via Piermont, for Sufferns and intermediate stations.

**WAY PASSENGER**, at 4.00 P.M., for Newburgh, Middletown and intermediate stations.

**EMIGRANT**, at 5.00 P.M., for Dunkirk and Buffalo, and intermediate stations.

**NIGHT EXPRESS**, at 5.00 P.M., for Dunkirk.

**NIGHT EXPRESS**, at 5.00 P.M., for Buffalo.

The above Trains run daily, Sundays excepted.

## THE AMERICAN FARMERS' ENCYCLOPEDIA:

**EMBRACING ALL THE RECENT DISCOVERIES** in Agricultural Chemistry, and the use of Mineral, Vegetable, and Animal Manures. With Descriptions and FIGURES of AMERICAN INSECTS injurious to Vegetation. Being a complete Guide for the Cultivation of every variety of Garden and Field Crops. Illustrated by numerous engravings of Grasses, Grains, Animals, Implements, Insects, &c.

By **GOUVERNEUR EMERSON**, of Pennsylvania, upon the basis of Johnson's Farmers' Encyclopedia.

PRICE, FOUR DOLLARS.

Sent free of postage upon receipt of price.

"No Farmer should be without it."

Published by **C. M. SAXTON & CO.**

AGRICULTURAL BOOK PUBLISHERS,  
140 Fulton Street, N. Y.

11.

## NEW WORK NOW IN PRESS.

(Ready 10th September.)

## SORGHO AND IMPHEE,

The Chinese and African Sugar-Canes.

A COMPLETE TREATISE UPON THEIR ORIGIN, Varieties, Culture, and Uses; their value as a Forage Crop, and Directions for making Sugar, Molasses, Alcohol, Sparkling and Still Wines, Beer, Cider, Vinegar, Paper, Starch, and Dye-Staffs.

FULLY ILLUSTRATED WITH DRAWINGS OF APPROVED MACHINERY. With an Appendix, by Leonard Wray, of Caffraria, and a description of his patented process for Crystallizing the Juice of the Imphee; with the latest American experiments, including those of 1857 in the South.

By **HENRY S. OLCOTT**.

To which are added Translations of valuable French Pamphlets, received from the Hon. John Y. Mason, American Minister at Paris.

PRICE, ONE DOLLAR.

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## EVERGREENS,

AND OTHER

## TREES AND PLANTS,

For Lawns, Parks, Cemeteries, Avenues, Streets, Gardens, &c.

Delivered in New-York, Philadelphia, and Baltimore, without extra charge, and at the lowest cash rates. Wholesale and Retail.

The Plants in this collection are unsurpassed in all the qualities necessary for insuring success in transplanting and producing the most desirable results for ornament and use.

N. B.—The present (ninth) month (September) is a favorable time for commencing the autumnal planting of Evergreens.

For Catalogues or other information, address

**DAVID J. GRISCOM,**

Sept. & Oct. **EVERGREEN NURSERY**, Woodbury, N. J.



## LOOK AT THIS!

It will be seen (fourth page cover) that we still offer the May and June Nos. of this work gratuitously to all new subscribers, commencing with the July No. Having printed 1500 copies of the Nos. extra, and expressly for this purpose, we supposed ourselves quite safe in making the offer we did. But as the demand has been entirely beyond our expectations, we are obliged to continue the offer, with the promise that when our May and June Nos. give out, as they will very soon, we will send to new subscribers an equivalent for these Nos.

As we are constantly receiving orders from post-masters for sample Nos., saying that the work is in demand in their neighborhoods, and that they can easily get up a club for it, we hereby authorize all post-masters to form clubs in their respective localities, and as we work for our living, and believe that the laborer is everywhere worthy of his hire, we are willing that they should retain one fourth of the money, and we will send the work on receipt of the balance.

Persons not post-masters may do the same—form clubs in their immediate vicinity, and send us three fourths of the money, and we will send the work, upon its receipt at this office; only let those who subscribe thus, know to whom they commit their money—to a neighbor well known to them, and known to be trustworthy—as we can not be responsible for persons unknown to us.

Many an old subscriber who approves our efforts—a great many farmers who are not subscribers but will see this offer—many a young man who is conscious of integrity, and knows that his neighbors will not fear to trust him—and many a woman who has the good sense to appreciate a scientific, practical, reliable, agricultural, and family Magazine, can thus extend the circulation of this work, and be sure to receive a fair compensation for the time spent.

The hard-working season, as the Wall-street rogues sometimes say of the money market, is getting a little easier. The time for reading is at hand. The family taking this work will be benefited many times the cost. Who will get up a club? Order the specimen numbers, and we will send them promptly. Now is the time.

7 BEEKMAN STREET, NEW-YORK, Sept. 1, 1857.

J. A. NASH,  
M. P. PARISH.

## THE CROPS.

BETTER late than never, and in this place than no place, a word about the crops. That the harvest crop, one of the most important in large portions of our country, has come in unusually well, almost if not quite everywhere, all know.

Pasturage, nearly all over the country, has been and is unusually good. Probably the pastures of this country have never produced as much before as they will this year.

Sad has been the destruction of wheat by the weevil in some small localities, but, as a whole, the wheat crop is more than an average, by far. We are inclined to think that the same is true of rye, oats, barley, buckwheat, and all smaller crops, taken as a whole.

Corn will yet be a full average if the weather shall be such through September as we could desire with reference to that crop alone—warm and but moderately wet. But if we are to have such weather as we would desire for the corn crop, the potato crop will, in all probability, be lost to a large extent by the blight, which is making considerable havoc in many places.

It now seems hardly probable that corn and potatoes will both come in well, since the conditions required to mature the first can hardly be favorable to the last; though, if September should be moderately warm, and rather dry, it seems possible that corn may ripen well, and potatoes not so badly. The potato disease seems widely spread, but nowhere, as far as we can learn, entirely destructive.

We have noticed but one field of the Chinese sugar-cane. On that is a rampant growth, and a more splendid crop we have not seen. One word about this plant for soiling purposes: We gave some cows standing in a barn near this field, and eating green corn, the offer of some of the sorghum stalks. These were butt ends, nearly two inches in diameter, and stripped of all leaves, and looking more like herculean clubs than like food for animals—large enough, long enough, and heavy enough, we should think, to knock down an ox with. To our surprise, the cows dropped the corn stalks as quick as if they had been hot potatoes, and would not touch them again till the sorghum stalks were wholly masticated and swallowed, nor even then till they had looked wistfully awhile, and despaired of getting more of the sorghum.

We have doubted whether the new gift of China would prove better for soiling than the old gift to Hiawatha, (vide Longfellow,) but the choice of these cows—and they were high-bred animals—favors the new plant. This little experiment was at the very excellent School of the Messrs. HARRINGTON, at Westchester. We have good reason to know that the boys at that School are well instructed; but whether the cows at such an institution know what is good better than other cows, we are not informed.

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## UNITED STATES FAIR FOR 1857.

FAIR of the United States Agricultural Society, Hon. Marshall P. Wilder, President, will be held at Louisville, Ky., September 1—4.

Annual Exhibition of the American Institute, in the Crystal Palace, New-York, opens September 15. (Goods received now.)

### BACK VOLUMES.

We have one complete set of the *Plough, Loom and Anvil*, from its inauguration by Col. Skinner, in July, 1848, uniformly bound in substantial library style, embracing, with the current volume, ten volumes, averaging a little short of eight hundred pages each. Price for the entire set, prepaid, or forwarded without expense to the purchaser, \$25. We have also several sets of the work, complete from 1850 to the present time, which we will send prepaid for \$2 a volume. Odd volumes, such as we can spare without breaking sets, \$1.75 a volume.

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M. P. PARISH, } 7 Beekman Street, New-York.

### ALLEN'S PATENT IMPROVED MOWING MACHINE, AND COMBINED MOWER and REAPER.

Strong, Simple in Construction,  
NOT LIABLE TO GET OUT OF ORDER,  
COMPACT, LIGHT, EASY OF DRAFT,  
Perfectly Safe to the Driver, and  
MAY BE WORKED AT A SLOW GAIT,  
BY HORSES OR OXEN.

### NO CLOGGING OF KNIVES.

WORKS WELL ON ROUGH GROUND, ALSO ON  
SIDE-HILLS, SALT AND FRESH  
MEADOWS, AND

### IN ANY KIND OF LODGED GRASS and CLOVER.

Warranted to give Entire Satisfaction.

MANUFACTURED AT THE  
AGRICULTURAL IMPLEMENT MANUFACTORY,

And for sale at the Warehouse, of

R. L. ALLEN, 189 & 191 Water St.,  
July 1st. NEW-YORK.

### PATENT AGENCY AND CHEMICAL LABORATORY, AT WASHINGTON, D. C.

DR. DANIEL BREED, late Assistant and acting Chief Examiner in the United States Patent Office, has established at Washington, D. C., a PATENT AGENCY in connection with a CHEMICAL LABORATORY. He will prepare papers and drawings, and make applications for Letters Patent in the United States and in Foreign Countries, and will give especial attention to chemical cases, and also to infringements, interferences, appeals, re-issues, and rejected applications.

Having long been familiar with the Library and Model Rooms of the Patent Office, to all of which he still has access, he possesses extraordinary facilities for making thorough examinations in regard to the patentability of inventions, being enabled also to search the standard works in German and French, and thus to give to invent-

ors, and others, reliable information concerning inventions and the arts in Europe and America.

The Laboratory is intended chiefly for experiment and analysis, for the purpose of testing and improving processes of manufacture and apparatus employed in the Chemical Arts, as also for the purpose of procuring and defending Patent Rights. After many years devoted to Chemistry—having studied in the German Laboratories under Liebig and Lowig, Dr. BREED feels confident in offering his services to Inventors and others interested in the chemical arts and manufactures, and to all who may require the services of a practical chemist.

Fees are most conveniently sent by mail, in drafts on New-York, Baltimore, Boston, or Philadelphia.

Models may be forwarded by Express, and all other business may be transacted by letter. Persons may also forward models and fees, and transact other business with Dr. Breed, through Messrs. Parish & Nash, editors of *The Plough, Loom, and Anvil*.

Patents procured through this Office, will be noticed in the *Plough, Loom, and Anvil*, and full descriptions given therein, when desired, without charge.

June, 1857.

The Plough, the Loom, and the Anvil;  
AN  
AMERICAN FARMERS' MAGAZINE  
AND  
MECHANICS' GUIDE.

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PROSPECTUS AND BUSINESS DIRECTORY  
FOR VOLUME X., COMMENCING JULY, 1857.

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For the purpose of bringing the future Volumes into accordance with the year, the 10th Volume will comprise but six months, ending with January, 1853. It will be complete in itself, with Title-page and Index; will contain 400 pages, half the usual number, and will be sold at \$1 to single subscribers, and 75 cents each to Clubs.

**AGRICULTURE AND HORTICULTURE.**

Thirty-two pages of each number will be devoted to an earnest advocacy of the Farmer's rights, to a faithful exposition of his duties in all practical matters of farm-life, and to so much of Horticulture as may prove useful to families with whom gardening and fruit-growing, if not a primary, are yet important interests.

**MANUFACTURES AND THE MECHANIC ARTS.**

About sixteen pages will be devoted to these, the topics selected to be of a character to interest the Farmer as well as the Mechanic, and to give the work a high value for both.

**MISCELLANEOUS.**

Science, as related to the Industrial Employments, Domestic Economy, Amusement, Literature, and General Intelligence will occupy the remaining pages.

**OUR OBJECT IS,**

To condense into our pages as much of practical value as we are able, to avoid whatever is sectional or immoral, and to make our work a pleasing and instructive family visitor.

**TERMS:**

\$3 a year to single subscribers; \$1.50 each to Clubs of four or more; \$1 for a single copy, six months; advertisements, 10 cents a line. Payment to be made, in all cases, in advance.

**REMITTANCES.**

Drafts are preferred; but when these can not be conveniently obtained, money (in registered letters, if over \$2) may be forwarded at our risk.

**NEW SUBSCRIBERS,**

Advancing for this work from July, 1857, and onward, shall receive the May and June Nos. gratis.

**PUBLISHING OFFICE,**

No. 7 Beekman Street, N. Y., Room 17, Nassau Bank Building, entrance from Beekman Street, one door west from Nassau, towards Park Row.

*Subscribers who have paid to July, 1857, and not beyond, will please advance for the ensuing year; and the few who are in arrears, will confer a favor by enclosing the amounts due without delay.*

J. A. NASH.

M. P. PARISH.